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NATIONAL PRIORITIES LIST SITES:
South Carolina

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Emergency & Remedial Response
Office of Program Management
Washington, D.C. 20460

If you wish to purchase copies of any additional State volumes or the National Overview volume, ***Superfund: Focusing on the Nation at Large***, contact:

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INTRODUCTION:

A BRIEF OVERVIEW

WHY THE SUPERFUND PROGRAM?

As the 1970s came to a close, a series of headline stories gave Americans a look at the dangers of dumping industrial and urban wastes on the land. First there was New York 's Love Canal. Hazardous waste buried there over a 25-year period contaminated streams and soil, and endangered the health of nearby residents. The result: evacuation of several hundred people. Then the leaking barrels at the Valley of the Drums in Kentucky attracted public attention, as did the dioxin tainted land and water in Times Beach, Missouri.

In all these cases, human health and the environment were threatened, lives were disrupted, property values depreciated. It became increasingly clear that there were large numbers of serious hazardous waste problems that were falling through the cracks of existing environmental laws. The magnitude of these emerging problems moved Congress to enact the Comprehensive Environmental Response, Compensation, and Liability Act in 1980. CERCLA — commonly known as the Superfund — was the first Federal law established to deal with the dangers posed by the Nation's hazardous waste sites.

After Discovery, the Problem Intensified

Few realized the size of the problem until EPA began the process of site discovery and site evaluation. Not hundreds, but thousands of potential hazardous waste sites existed, and they presented the Nation with some of the most complex pollution problems it had ever faced.

In the 10 years since the Superfund program began, hazardous waste has surfaced as a major environmental concern in every part of the United States. It wasn't just the land that was contaminated by past disposal practices. Chemicals in the soil were spreading into the groundwater (a source of drinking water for many) and into streams, lakes, bays, and wetlands. Toxic vapors contaminated the air at some sites, while at others improperly disposed or stored wastes threatened the health of the surrounding community and the environment.

EPA Identified More than 1,200 Serious Sites

EPA has identified 1,236 hazardous waste sites as the most serious in the Nation. These sites comprise the "National Priorities List": sites targeted for cleanup under the Superfund. But site discoveries continue, and EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL, will continue to grow by approximately 100 sites per year, reaching 2,100 sites by the year 2000.

THE NATIONAL CLEANUP EFFORT IS MUCH MORE THAN THE NPL

From the beginning of the program, Congress recognized that the Federal government could not and should not address all environmental problems stemming from past disposal practices. Therefore, the EPA was directed to set priorities and establish a list of sites to target. Sites on the NPL (1,236) are thus a rela-

tively small subset of a larger inventory of potential hazardous waste sites, but they do comprise the most complex and environmentally compelling cases. EPA has logged more than 32,000 sites on its National hazardous waste inventory, and assesses each site within one year of being logged. In fact, over 90 percent of the sites on the inventory have been assessed. Of the assessed sites, 55 percent have been found to require no further Federal action because they did not pose significant human health or environmental risks. The remaining sites are undergoing further assessment to determine if long-term Federal cleanup activities are appropriate.

EPA IS MAKING PROGRESS ON SITE CLEANUP

The goal of the Superfund program is to tackle immediate dangers first, and then move through the progressive steps necessary to eliminate any long-term risks to public health and the environment.

The Superfund responds immediately to sites posing imminent threats to human health and the environment at both NPL sites and sites not on the NPL. The purpose is to stabilize, prevent, or temper the effects of a hazardous release, or the threat of one. These might include tire fires or transportation accidents involving the spill of hazardous chemicals. Because they reduce the threat a site poses to human health and the environment, immediate cleanup actions are an integral part of the Superfund program.

Immediate response to imminent threats is one of the Superfund 's most noted achievements. Where imminent threats to the public or environment were evident, EPA has completed or monitored emergency actions that attacked the most serious threats to toxic exposure in more than 1,800 cases.

The ultimate goal for a hazardous waste site on the NPL is a permanent solution to an environmental problem that presents a serious (but not an imminent) threat to the public or environment. This often requires a long-term effort. In the last four years, EPA has aggressively accelerated its efforts to perform these long-term cleanups of NPL sites. More cleanups were started in 1987, when the Superfund law was amended, than in any previous year. And in 1989 more sites than ever reached the construction stage of the Superfund cleanup process. Indeed construction starts increased by over 200 percent between late 1986 and 1989! Of the sites currently on the NPL, more than 500 — nearly half — have had construction cleanup activity. In addition, over 500 more sites are presently in the investigation stage to determine the extent of site contamination, and to identify appropriate cleanup remedies. Many other sites with cleanup remedies selected are poised for the start of cleanup construction activity. Measuring success by "progress through the cleanup pipeline," EPA is clearly gaining momentum.

EPA MAKES SURE CLEANUP WORKS

EPA has gained enough experience in cleanup construction to understand that environmental protection does not end when the remedy is in place. Many complex technologies — like those designed to clean up groundwater — must operate for many years in order to accomplish their objectives.

EPA 's hazardous waste site managers are committed to proper operation and maintenance of every remedy constructed. No matter who has been delegated responsibility for monitoring the cleanup work, the EPA will assure that the remedy is carefully followed and that it continues to do its job.

Likewise, EPA does not abandon a site even after the cleanup work is done. Every

five years the Agency reviews each site where residues from hazardous waste cleanup still remain to ensure that public and environmental health are still being safeguarded. EPA will correct any deficiencies discovered and report to the public annually on all five-year reviews conducted that year.

CITIZENS HELP SHAPE DECISIONS

Superfund activities also depend upon local citizen participation. EPA's job is to analyze the hazards and deploy the experts, but the Agency needs citizen input as it makes choices for affected communities.

Because the people in a community with a Superfund site will be those most directly affected by hazardous waste problems and cleanup processes, EPA encourages citizens to get involved in cleanup decisions. Public involvement and comment does influence EPA cleanup plans by providing valuable information about site conditions, community concerns and preferences.

This State volume and the companion National Overview volume provide general Superfund background information and descriptions of activities at each State NPL site. These volumes are intended to clearly describe what the problems are, what EPA and others participating in site cleanups are doing, and how we as a Nation can move ahead in solving these serious problems.

USING THE STATE AND NATIONAL VOLUMES IN TANDEM

To understand the big picture on hazardous waste cleanup, citizens need to hear about both environmental progress across the country and the cleanup accomplishments closer to home. The public should understand the challenges involved in hazardous waste cleanup and the decisions we must make — as a Nation — in finding the best solutions.

The National Overview volume — ***Superfund: Focusing on the Nation at Large*** — accompanies this State volume. The National Overview contains important information to help you understand the magnitude and challenges facing the Superfund program as well as an overview of the National cleanup effort. The sections describe the nature of the hazardous waste problem nationwide, threats and contaminants at NPL sites and their potential effects on human health and the environment, the Superfund program's successes in cleaning up the Nation's serious hazardous waste sites, and the vital roles of the various participants in the cleanup process.

This State volume compiles site summary fact sheets on each State site being cleaned up under the Superfund program. These sites represent the most serious hazardous waste problems in the Nation, and require the most complicated and costly site solutions yet encountered. Each State book gives a "snapshot" of the conditions and cleanup progress that has been made at each NPL site in the State through the first half of 1990. Conditions change as our cleanup efforts continue, so these site summaries will be updated periodically to include new information on progress being made.

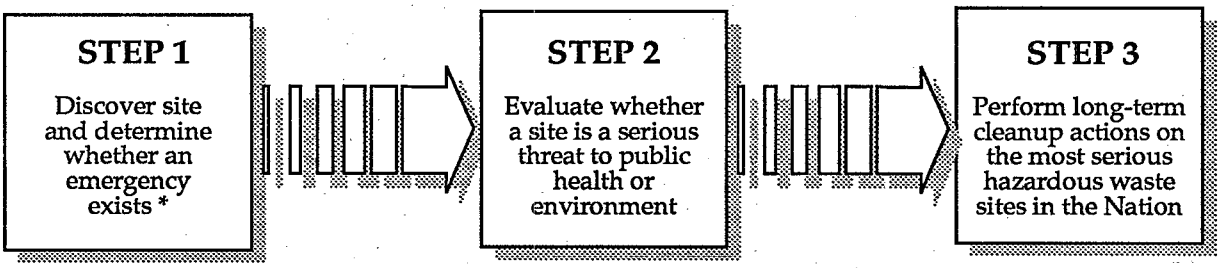
To help you understand the cleanup accomplishments made at these sites, this State volume includes a description of the process for site discovery, threat evaluation and long-term cleanup of Superfund sites. This description — ***How Does the Program Work to Clean Up Sites?*** — will serve as a good reference point from which to review the cleanup status at specific sites. A glossary also is included at the back of the book that defines key terms used in the site fact sheets as they apply to hazardous waste management.

SUPERFUND:

How Does the Program Work to Clean Up Sites?

The diverse problems posed by the Nation's hazardous waste sites have provided EPA with the challenge to establish a consistent approach for evaluating and cleaning up the Nation's most serious sites. To do this, EPA had to step beyond its traditional role as a regulatory agency to develop processes and guidelines for each step in these technically complex site cleanups. EPA has established procedures to coordinate the efforts of its Washington, D.C. Headquarters program offices and its front-line staff in 10 Regional Offices with the State governments, contractors, and private parties who are participating in site cleanup. An important part of the process is that any time during cleanup, work can be led by EPA or the State or, under their monitoring, by private parties who are potentially responsible for site contamination.

The process for discovery of the site, evaluation of threat, and long-term cleanup of Superfund sites is summarized in the following pages. The phases of each of these steps are highlighted within the description. The flow diagram below provides a summary of this three step process.



** Emergency actions are performed whenever needed in this three-step process*

FIGURE 1

Although this State book provides a current "snapshot" of site progress made only by emergency actions and long-term cleanup actions at Superfund sites, it is important to understand the discovery and evaluation process that leads up to identifying and cleaning up these most serious uncontrolled or abandoned hazardous waste sites in the Nation. This discovery and evaluation process is the starting point for this summary description.

STEP 1: SITE DISCOVERY AND EMERGENCY EVALUATION

How does EPA learn about potential hazardous waste sites?

Site discovery occurs in a number of ways. Information comes from concerned citizens — people may notice an odd taste or foul odor in their drinking water, or see half-buried leaking barrels; a hunter may come across a field where waste was dumped illegally. Or there may be an explosion or fire which alerts the State or local authorities to a problem. Routine investigations by State and local governments, and required reporting and inspection of facilities that generate, treat, store, or dispose of hazardous waste also help keep EPA informed about either actual or potential threats of hazardous substance releases. All reported sites or spills are recorded in the Superfund inventory (CERCLIS) for further investigation to determine whether they will require cleanup.

What happens if there is an imminent danger?

As soon as a potential hazardous waste site is reported, EPA determines whether there is an emergency requiring an immediate cleanup action. If there is, they act as quickly as possible to remove or stabilize the imminent threat. These short-term **emergency actions** range from building a fence around the contaminated area to keep people away or temporarily relocating residents until the danger is addressed, to providing bottled water to residents while their local drinking water supply is being cleaned up, or physically removing wastes for safe disposal.

However, emergency actions can happen at any time an imminent threat or emergency warrants them — for example, if leaking barrels are found when cleanup crews start digging in the ground or if samples of contaminated soils or air show that there may be a threat of fire or explosion, an immediate action is taken.

STEP 2: SITE THREAT EVALUATION

If there isn't an imminent danger, how does EPA determine what, if any, cleanup actions should be taken?

Even after any imminent dangers are taken care of, in most cases contamination may remain at the site. For example, residents may have been supplied with bottled water to take care of their immediate problem of contaminated well water. But now it's time to figure out what is contaminating the drinking water supply and the best way to clean it up. Or

EPA may determine that there is no imminent danger from a site, so now any long-term threats need to be evaluated. In either case, a more comprehensive investigation is needed to determine if a site poses a serious but not imminent danger, and requires a long-term cleanup action.

Once a site is discovered and any needed emergency actions are taken, EPA or the State collects all available background information not only from their own files, but also from local records and U.S. Geological Survey maps. This information is used to identify the site and to perform a **preliminary assessment** of its potential hazards. This is a quick review of readily available information to answer the questions:

- Are hazardous substances likely to be present?
- How are they contained?
- How might contaminants spread?
- How close is the nearest well, home, or natural resource area like a wetland or animal sanctuary?
- What may be harmed — the land, water, air, people, plants, or animals?

Some sites do not require further action because the preliminary assessment shows that they don't threaten public health or the environment. But even in these cases, the sites remain listed in the Superfund inventory for record keeping purposes and future reference. Currently, there are more than 32,000 sites maintained in this inventory.

If the preliminary assessment shows that a serious threat *may* exist, what's the next step?

Inspectors go to the site to collect additional information to evaluate its hazard potential. During this **site inspection**, they look for evidence of hazardous waste, such as leaking drums and dead or discolored vegetation. They may take some samples of soil, well water, river water, and air. Inspectors analyze the ways hazardous materials could be polluting the environment — such as runoff into nearby streams. They also check to see if people (especially children) have access to the site.

How does EPA use the results of the site inspection?

Information collected during the site inspection is used to identify the sites posing the most serious threats to human health and the environment. This way EPA can meet the

requirement that Congress gave them to use Superfund monies only on the worst hazardous waste sites in the Nation.

To identify the most serious sites, EPA developed the Hazard Ranking System (HRS). The HRS is the scoring system EPA uses to assess the relative threat from a release or a potential release of hazardous substances from a site to surrounding groundwater, surface water, air, and soil. A site score is based on the likelihood a hazardous substance will be released from the site, the toxicity and amount of hazardous substances at the site, and the people and sensitive environments potentially affected by contamination at the site.

Only sites with high enough health and environmental risk scores are proposed to be added to EPA's **National Priorities List (NPL)**. That's why there are 1,236 sites are on the NPL, but there are more than 32,000 sites in the Superfund inventory. Only NPL sites can have a long-term cleanup paid for from the national hazardous waste trust fund — the Superfund. But the Superfund can and does pay for emergency actions performed at any site, whether *or not it's on the NPL.*

How do people find out whether EPA considers a site a national priority for cleanup using Superfund money?

The public can find out whether a site that concerns them is on the NPL by calling their Regional EPA office at the number listed in this book.

The proposed NPL identifies sites that have been evaluated through the scoring process as the most serious problems among uncontrolled or abandoned hazardous waste sites in the U.S. In addition, a site will be added to the NPL if the Agency for Toxic Substances and Disease Registry issues a health advisory recommending that people be moved away from the site. Updated at least once a year, it's only after public comments are considered that these proposed worst sites are officially added to the NPL.

Listing on the NPL does not set the order in which sites will be cleaned up. The order is influenced by the relative priority of the site's health and environmental threats compared to other sites, and such factors as State priorities, engineering capabilities, and available technologies. Many States also have their own list of sites that require cleanup; these often contain sites not on the NPL that are scheduled to be cleaned up with State money. And it should be said again that any emergency action needed at a site can be performed by the Superfund whether or not a site is on the NPL.

STEP 3: LONG-TERM CLEANUP ACTIONS

After a site is added to the NPL, what are the steps to cleanup?

The ultimate goal for a hazardous waste site on the NPL is a permanent, long-term cleanup. Since every site presents a unique set of challenges, there is no single all-purpose solution. So a five-phase "remedial response" process is used to develop consistent and workable solutions to hazardous waste problems across the Nation:

1. Investigate in detail the extent of the site contamination: **remedial investigation,**
2. Study the range of possible cleanup remedies: **feasibility study,**
3. Decide which remedy to use: **Record of Decision or ROD,**
4. Plan the remedy: **remedial design,** and
5. Carry out the remedy: **remedial action.**

This remedial response process is a long-term effort to provide a permanent solution to an environmental problem that presents a serious, but not an imminent threat to the public or environment.

The first two phases of a long-term cleanup are a combined **remedial investigation and feasibility study** (RI/FS) that determine the nature and extent of contamination at the site, and identify and evaluate cleanup alternatives. These studies may be conducted by EPA or the State or, under their monitoring, by private parties.

Like the initial site inspection described earlier, a remedial investigation involves an examination of site data in order to better define the problem. But the remedial investigation is much more detailed and comprehensive than the initial site inspection.

A remedial investigation can best be described as a carefully designed field study. It includes extensive sampling and laboratory analyses to generate more precise data on the types and quantities of wastes present at the site, the type of soil and water drainage patterns, and specific human health and environmental risks. The result is information that allows EPA to select the cleanup strategy that is best suited to a particular site or to determine that no cleanup is needed.

Placing a site on the NPL does not necessarily mean that cleanup is needed. It is possible for a site to receive an HRS score high enough to be added to the NPL, but not ultimately require cleanup actions. Keep in mind that the purpose of the scoring process is to provide a preliminary and conservative assessment of *potential* risk. During subsequent site investigations, the EPA may find either that there is no real threat or that the site does not pose significant human health or environmental risks.

How are cleanup alternatives identified and evaluated?

EPA or the State or, under their monitoring, private parties identify and analyze specific site cleanup needs based on the extensive information collected during the remedial investigation. This analysis of cleanup alternatives is called a **feasibility study**.

Since cleanup actions must be tailored exactly to the needs of each individual site, more than one possible cleanup alternative is always considered. After making sure that all potential cleanup remedies fully protect human health and the environment and comply with Federal and State laws, the advantages and disadvantages of each cleanup alternative are carefully compared. These comparisons are made to determine their effectiveness in the short- and long-term, their use of permanent treatment solutions, and their technical feasibility and cost.

To the maximum extent practicable, the remedy must be a permanent solution and use treatment technologies to destroy principal site contaminants. But remedies such as containing the waste on site or removing the source of the problem (like leaking barrels) are often considered effective. Often special pilot studies are conducted to determine the effectiveness and feasibility of using a particular technology to clean up a site. Therefore, the combined remedial investigation and feasibility study can take between 10 and 30 months to complete, depending on the size and complexity of the problem.

Does the public have a say in the final cleanup decision?

Yes. The Superfund law requires that the public be given the opportunity to comment on the proposed cleanup plan. Their concerns are carefully considered before a final decision is made.

The results of the remedial investigation and feasibility study, which also point out the recommended cleanup choice, are published in a report for public review and comment. EPA or the State encourages the public to review the information and take an active role in the final cleanup decision. Fact sheets and announcements in local papers let the community know where they can get copies of the study and other reference documents concerning the site.

The public has a minimum of 30 days to comment on the proposed cleanup plan after it is published. These comments can either be written or given verbally at public meetings that EPA or the State are required to hold. Neither EPA nor the State can select the final cleanup remedy without evaluating and providing written answers to specific community comments and concerns. This "responsiveness summary" is part of EPA's write-up of the final remedy decision, called the Record of Decision or ROD.

The ROD is a public document that explains the cleanup remedy chosen and the reason it was selected. Since sites frequently are large and must be cleaned up in stages, a ROD may be necessary for each contaminated resource or area of the site. This may be necessary when contaminants have spread into the soil, water and air, and affect such sensitive areas as wetlands, or when the site is large and cleaned up in stages. This often means that a number of remedies using different cleanup technologies are needed to clean up a single site.

If every cleanup action needs to be tailored to a site, does the design of the remedy need to be tailored too?

Yes. Before a specific cleanup action is carried out, it must be designed in detail to meet specific site needs. This stage of the cleanup is called the **remedial design.** The design phase provides the details on how the selected remedy will be engineered and constructed.

Projects to clean up a hazardous waste site may appear to be like any other major construction project but, in fact, the likely presence of combinations of dangerous chemicals demands special construction planning and procedures. Therefore, the design of the remedy can take anywhere from 6 months to 2 years to complete. This blueprint for site cleanup includes not only the details on every aspect of the construction work, but a description of the types of hazardous wastes expected at the

site, special plans for environmental protection, worker safety, regulatory compliance, and equipment decontamination.

Once the design is complete, how long does it take to actually clean up the site and how much does it cost?

The time and cost for performing the site cleanup — called the **remedial action** — are as varied as the remedies themselves. In a few cases, the only action needed may be to remove drums of hazardous waste and decontaminate them — an action that takes limited time and money. In most cases, however, a remedial action may involve different and expensive measures that can take a long time.

For example, cleaning polluted groundwater or dredging contaminated river bottoms can take several years of complex engineering work before contamination is reduced to safe levels. Sometimes the selected cleanup remedy described in the ROD may need to be modified because of new contaminant information discovered or difficulties that were faced during the early cleanup activities. Taking into account these differences, a remedial cleanup action takes an average of 18 months to complete and costs an average of $26 million per site.

Once the cleanup action is complete, is the site automatically "deleted" from the NPL?

No. The deletion of a site from the NPL is anything but automatic. For example, cleanup of contaminated groundwater may take up to 20 years or longer. Also, in some cases the **long-term monitoring** of the remedy is required to ensure that it is effective. After construction of certain remedies, operation and maintenance (e.g., maintenance of ground cover, groundwater monitoring, etc.) or continued pumping and treating of groundwater, may be required to ensure that the remedy continues to prevent future health hazards or environmental damage, and ultimately meets the cleanup goals specified in the ROD. Sites in this final monitoring or operational stage of the cleanup process are designated as "construction completed".

It's not until a site cleanup meets all the goals and monitoring requirements of the selected remedy that EPA can officially propose the site for **"deletion"** from the NPL. And it's not until public comments are taken into consideration that a site can actually be deleted from the NPL. Deletions that have occurred are included in the "Construction Complete" category in the progress report found later in this book.

Can EPA make parties responsible for the contamination pay?

Yes. Based on the belief that "the polluters should pay," after a site is placed on the NPL, the EPA makes a thorough effort to identify and find those responsible for causing contamination problems at a site. Although EPA is willing to negotiate with these private parties and encourages voluntary cleanup, it has the authority under the Superfund law to legally force those potentially responsible for site hazards to take specific cleanup actions. All work performed by these parties is closely guided and monitored by EPA, and must meet the same standards required for actions financed through the Superfund.

Because these enforcement actions can be lengthy, EPA may decide to use Superfund monies to make sure a site is cleaned up without unnecessary delay. For example, if a site presents an imminent threat to public health and the environment, or if conditions at a site may worsen, it could be necessary to start the cleanup right away. Those responsible for causing site contamination are liable under the law for repaying the money EPA spends in cleaning up the site.

Whenever possible, EPA and the Department of Justice use their legal enforcement authorities to require responsible parties to pay for site cleanups, thereby preserving the Superfund for emergency actions and sites where no responsible parties can be identified.

HOW TO:

USING THE STATE VOLUME

The Site Fact Sheets presented in this book are comprehensive summaries that cover a broad range of information. The fact sheets describe hazardous waste sites on the National Priorities List (NPL) and their locations, as well as the conditions leading to their listing ("Site Description"). They list the types of contaminants that have been discovered and related threats to public and ecological health ("Threats and Contaminants"). "Cleanup Approach" presents an overview of the cleanup activities completed, underway, or planned. The fact sheets conclude with a brief synopsis of how much progress has been made on protecting public health and the environment. The summaries also pinpoint other actions, such as legal efforts to involve polluters responsible for site contamination and community concerns.

The following two pages show a generic fact sheet and briefly describes the information under each section. The square "icons" or symbols accompanying the text allow the reader to see at a glance which environmental resources are affected and the status of cleanup activities.

Icons in the *Threats and Contaminants* Section

Contaminated **Groundwater** resources in the vicinity or underlying the site. (Groundwater is often used as a drinking water source.)

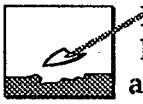
Contaminated **Surface Water and Sediments** on or near the site. (These include lakes, ponds, streams, and rivers.)

Contaminated **Air** in the vicinity of the site. (Pollution is usually periodic and involves contaminated dust particles or hazardous gas emissions.)

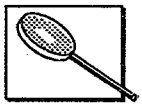
Contaminated **Soil and Sludges** on or near the site.

Threatened or contaminated **Environmentally Sensitive Areas** in the vicinity of the site. (Examples include wetlands and coastal areas, critical habitats.)

Icons in the *Response Action Status* Section



Initial Actions have been taken or are underway to eliminate immediate threats at the site.



Site Studies at the site are planned or underway.

Remedy Selected indicates that site investigations have been concluded and EPA has selected a final cleanup remedy for the site or part of the site.

Remedy Design means that engineers are preparing specifications and drawings for the selected cleanup technologies.

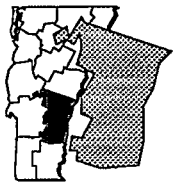
Cleanup Ongoing indicates that the selected cleanup remedies for the contaminated site — or part of the site — are currently underway.

Cleanup Complete shows that all cleanup goals have been achieved for the contaminated site or part of the site.

Site Responsibility

Identifies the Federal, State, and/or potentially responsible parties that are taking responsibility for cleanup actions at the site.

SITE NAME
STATE
EPA ID# ABC00000000



EPA REGION
CONGRESSIONAL DIST
County Name
Location

Aliases:

Site Description

Site Responsibility:

NPL LISTING HISTORY

NPL Listing History

Dates when the site was Proposed, made Final, and Deleted from the NPL

Threats and Contaminants

Cleanup Approach

Response Action Status

Site Facts:

Environmental Progress

Environmental Progress

A summary of the actions to reduce the threats to nearby residents and the surrounding environment; progress towards cleaning up the site and goals of the cleanup plan are given here.

WHAT THE FACT SHEETS CONTAIN

Site Description

This section describes the location and history of the site. It includes descriptions of the most recent activities and past actions at the site that have contributed to the contamination. Population estimates, land usages, and nearby resources give readers background on the local setting surrounding the site. Throughout the site description and other sections of the site summary, technical or unfamiliar terms that are *italicized* are presented in the glossary at the end of the book. Please refer to the glossary for more detailed explanation or definition of the terms.

Threats and Contaminants

The major chemical categories of site contamination are noted as well as which environmental resources are affected. Icons representing each of the affected resources (may include air, groundwater, surface water, soil and contamination to environmentally sensitive areas) are included in the margins of this section. Potential threats to residents and the surrounding environments arising from the site contamination are also described. Specific contaminants and contaminant groupings are italicized and explained in more detail in the glossary.

Cleanup Approach

This section contains a brief overview of how the site is being cleaned up.

Response Action Status

Specific actions that have been accomplished or will be undertaken to clean up the site are described here. Cleanup activities at NPL sites are divided into separate phases depending on the complexity and required actions at the site. Two major types of cleanup activities are often described: initial, immediate or emergency actions to quickly remove or reduce imminent threats to the community and surrounding areas; and long-term remedial phases directed at final cleanup at the site. Each stage of the cleanup strategy is presented in this section of the summary. Icons representing the stage of the cleanup process (initial actions, site investigations, EPA selection of the cleanup remedy, engineering design phase, cleanup activities underway and completed cleanup) are located in the margin next to each activity description.

Site Facts

Additional information on activities and events at the site are included in this section. Often details on legal or administrative actions taken by EPA to achieve site cleanup or other facts pertaining to community involvement with the site cleanup process are reported here.

How To

The fact sheets are arranged in alphabetical order by site name. Because site cleanup is a dynamic and gradual process, all site information is accurate as of the date shown on the bottom of each page. Progress is always being made at NPL sites, and EPA will periodically update the Site Fact Sheets to reflect recent actions and publish updated State volumes.

HOW CAN *YOU* USE THIS STATE BOOK?

You can use this book to keep informed about the sites that concern you, particularly ones close to home. EPA is committed to involving the public in the decisionmaking process associated with hazardous waste cleanup. The Agency solicits input from area residents in communities affected by Superfund sites. Citizens are likely to be affected not only by hazardous site conditions, but also by the remedies that combat them. Site cleanups take many forms and can affect communities in different ways. Local traffic may be rerouted, residents may be relocated, temporary water supplies may be necessary.

Definitive information on a site can help citizens sift through alternatives and make decisions. To make good choices, you must know what the threats are and how EPA intends to clean up the site. You must understand the cleanup alternatives being proposed for site cleanup and how residents may be affected by each one. You also need to have some idea of how your community intends to use the site in the future and to know what the community can realistically expect once the cleanup is complete.

EPA wants to develop cleanup methods that meet community needs, but the Agency can only take local concerns into account if it understands what they are. Information must travel both ways in order for cleanups to be effective and satisfactory. Please take this opportunity to learn more, become involved, and assure that hazardous waste cleanup at "your" site considers your community's concerns.

NPL Sites in State of South Carolina

South Carolina is a south Atlantic coastal state, bordered by North Carolina to the north and Georgia to the southwest. The State covers 31,113 square miles, consisting of the Blue Ridge Mountains in the northwest, piedmont, and coastal plain down to the Atlantic Ocean. South Carolina experienced an 11.2 percent increase in population through the 1980s and currently has approximately 3,470,000 residents, ranking 25th in U.S. populations. Principal State industries are tourism, agriculture, and manufacturing. South Carolina manufacturing produces textiles, apparel, machinery, fabricated metal products, chemicals and other allied products.

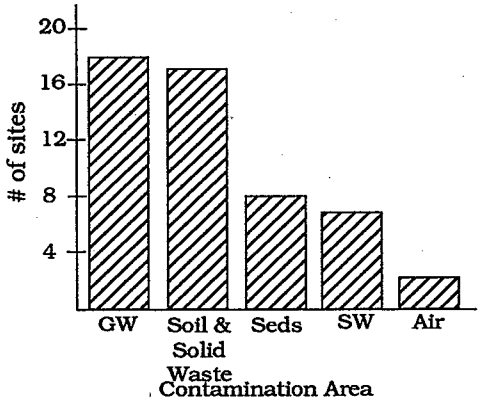
How Many South Carolina Sites Are on the NPL?

Proposed	1
Final	21
Deleted	0
	22

Where Are the NPL Sites Located?

Cong. District 06, 07	1 site
Cong. District 03, 04	3 sites
Cong. District 05	4 sites
Cong. District 01, 02	5 sites

How are Sites Contaminated and What are the Principal* Chemicals ?



Groundwater: Heavy metals (inorganics), volatile organic compounds (VOCs), radiation, and pesticides.

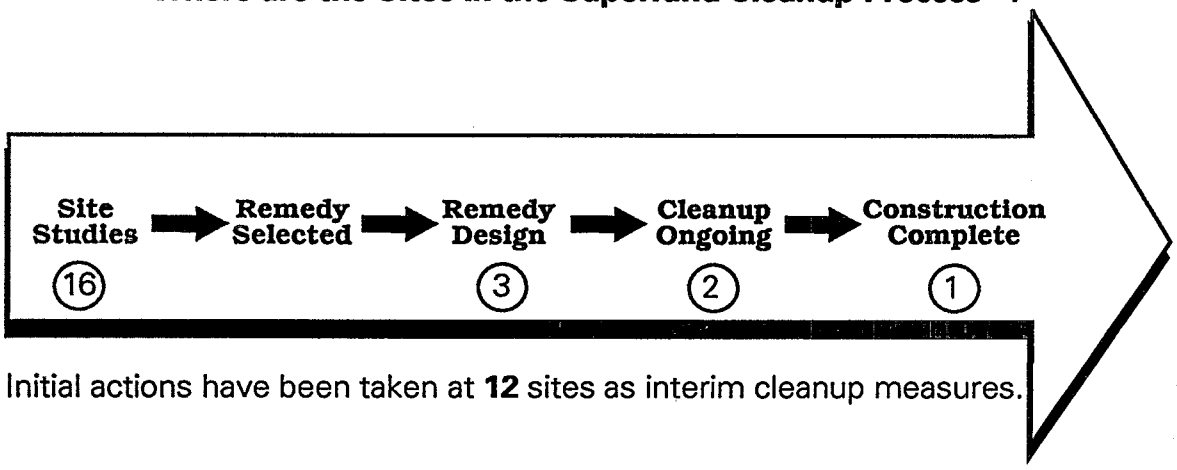
Soil and Solid Waste: Heavy metals (inorganics) volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and creosote (organics).

Surface Water and Sediments: Heavy metals (inorganics), volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs).

Air: Volatile organic compounds (VOCs).

*Appear at 15% or more sites

Where are the Sites in the Superfund Cleanup Process* ?



Initial actions have been taken at **12** sites as interim cleanup measures.

Who Do I Call with Questions?

The following pages describe each NPL site in South Carolina, providing specific information on threats and contaminants, cleanup activities, and environmental progress. Should you have questions, please call one of the offices listed below:

South Carolina Superfund Office	(803) 734-5200
EPA Region IV Superfund Office	(404) 347-2234
EPA Public Information Office	(202) 477-7751
EPA Superfund Hotline	(800) 424-9346
EPA Region IV Superfund Public Relations Office	(404) 347-3004

* Cleanup status reflects phase of site activities rather than administrative accomplishments.

The NPL Progress Report

The following Progress Report lists the State sites currently on or deleted from the NPL, and briefly summarizes the status of activities for each site at the time this report was prepared. The steps in the Superfund cleanup process are arrayed across the top of the chart, and each site's progress through these steps is represented by an arrow (➨) which indicates the current stage of cleanup at the site.

Large and complex sites are often organized into several cleanup stages. For example, separate cleanup efforts may be required to address the source of the contamination, hazardous substances in the groundwater, and surface water pollution, or to clean up different areas of a large site. In such cases, the chart portrays cleanup progress at the site's *most advanced stage,* reflecting the status of site activities rather than administrative accomplishments.

- ➨ An arrow in the "Initial Response" category indicates that an emergency cleanup or initial action has been completed or is currently underway. Emergency or initial actions are taken as an interim measure to provide immediete relief from exposure to hazardous site conditions or to stabilize a site to prevent further contamination.
- ➨ An arrow in the "Site Studies" category indicates that an investigation to determine the nature and extent of the contamination at the site is currently ongoing or planned to begin in 1991.
- ➨ An arrow in the "Remedy Selection" category means that the EPA has selected the final cleanup strategy for the site. At the few sites where the EPA has determined that initial response actions have eliminated site contamination, or that any remaining contamination will be naturally dispersed without further cleanup activities, a "No Action" remedy is selected. In these cases, the arrows in the Progress Report are discontinued at the "Remedy Selection" step and resume in the final "Construction Complete" category.
- ➨ An arrow at the "Remedial Design" stage indicates that engineers are currently designing the technical specifications for the selected cleanup remedies and technologies.
- ➨ An arrow marking the "Cleanup Ongoing" category means that final cleanup actions have been started at the site and are currently underway.
- ➨ A arrow in the "Construction Complete" category is used *only* when *all phases* of the site cleanup plan have been performed and the EPA has determined that no additional construction actions are required at the site. Some sites in this category may currently be undergoing long-term pumping and treating of groundwater, operation and maintenance or monitoring to ensure that the completed cleanup actions continue to protect human health and the environment.

The sites are listed in alphabetical order. Further information on the activities and progress at each site is given in the site "Fact Sheets" published in this volume.

Progress Toward Cleanup at NPL Sites in the State of South Carolina

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete
1	BEAUNIT CORP./CIRCULAR KNIT & DYE	GREENVILLE	Final	02/16/90		➡				
3	CAROLAWN	CHESTER	Final	09/01/83	➡	➡	➡	➡		
5	ELMORE WASTE DISPOSAL	SPARTENBURG	Final	03/31/89	➡	➡				
7	GEIGER SITE (C & M OIL)	CHARLESTON	Final	09/01/84		➡	➡	➡		
9	GOLDEN STRIP SEPTIC TANK SERVICES	GREENVILLE	Final	07/07/87		➡				
11	HELENA CHEMICAL COMPANY LDFL	ALLENDALE	Final	02/21/90	➡	➡				
13	INDEPENDENT NAIL COMPANY	BEAUFORT	Final	09/01/84	➡	➡	➡	➡	➡	➡
15	KALAMA SPECIALTY CHEMICALS	BEAUFORT	Final	09/01/84		➡				
17	KOPPERS COMPANY, INC.	FLORENCE	Final	09/01/84	➡	➡				
19	LEONARD CHEMICAL CO., INC.	YORK	Final	09/01/84	➡	➡				
21	LEXINGTON COUNTY LANDFILL	LEXINGTON	Final	10/04/89		➡				
23	MEDLEY FARMS	CHEROKEE	Final	03/31/89	➡	➡				
25	PALMETTO RECYCLING INC.	RICHLAND	Final	07/07/87	➡	➡				
27	PALMETTO WOOD PRESERVING	LEXINGTON	Final	09/01/84	➡	➡	➡	➡	➡	
29	ROCHESTER PROPERTY	GREENVILLE	Final	10/04/89		➡				
31	ROCK HILL CHEMICAL CO./RUTLEDGE	YORK	Final	02/21/90	➡	➡				
33	SANGAMO/TWELVE-MILE/HARTWELL	PICKENS	Prop.	06/24/88	➡	➡				
35	SAVANNAH RIVER SITE	AIKEN	Final	11/21/89		➡				

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete
37	SCRDI BLUFF ROAD	RICHLAND	Final	09/01/83	➡	➡				
39	SCRDI DIXIANA	LEXINGTON	Final	09/01/83		➡	➡	➡	➡	
41	TOWNSEND SAW CHAIN CO.	RICHLAND	Final	02/16/90		➡				
43	WAMCHEM, INC.	BEAUFORT	Final	09/01/84		➡	➡	➡		

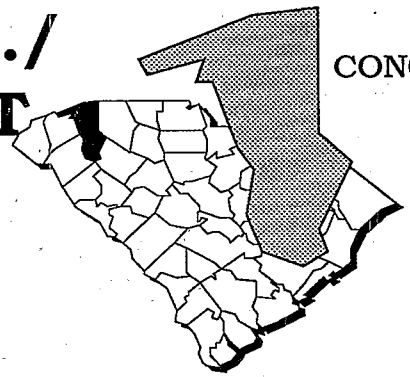
NPL:

Site Fact Sheets

BEAUNIT CORP./ CIRCULAR KNIT AND DYEING

SOUTH CAROLINA

EPA ID# SCD000447268



REGION 4

CONGRESSIONAL DIST. 04

Greenville County

Fountain Inn

Site Description

The Beaunit Corporation site is a 70-foot abandoned unlined *lagoon* located in a commercial district of Fountain Inn. From 1958 to 1977, the site was used to treat dye waste generated from the Circular Knit and Dyeing Plant. Six feet of *sludge* is located on the bottom of the lagoon. Because a barrier was not placed along the site's perimeter, the lagoon discharged into an unnamed stream that flows northwest to join Howard Branch. Testing in 1985 by the South Carolina Department of Health and Environmental Control found a variety of contaminants in the lagoon, the nearby stream, soil, and *sediment* at the site. Approximately 1,000 people live within 3 miles of the site.

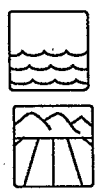
Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 02/16/90

Threats and Contaminants



Polychlorinated biphenyls (PCBs) and heavy metals including chromium and lead are found in on-site sediments and soil. *Volatile organic compounds* (VOCs) are found in the lagoon and the unnamed stream that flows northwest to join Howard Branch. Because the soils in the area are permeable and groundwater is shallow, contaminants could easily *migrate* into the groundwater.

Cleanup Approach

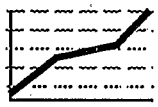
This site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: Initial work on the site investigation is being completed. With final listing to the NPL recently approved, work to investigate the extent of the contamination will become more extensive and cleanup activities will be selected, designed, and implemented.

Site Facts: The EPA issued *Notice Letters* to parties potentially responsible for site contamination requesting their participation in site cleanup activities.

Environmental Progress

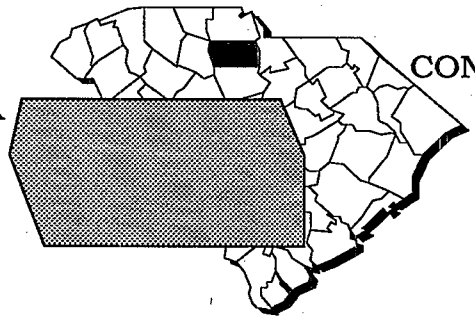


After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were needed at the Beaunit Corp. site while further studies and cleanup activities are taking place.

CAROLAWN

SOUTH CAROLINA

EPA ID# SCD980558316



REGION 4
CONGRESSIONAL DIST. 05
Chester County
Fort Lawn

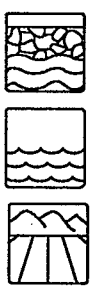
Site Description

The Carolawn site is an abandoned 3-acre waste storage and disposal facility that was owned by various companies until the Carolawn Company bought the site in 1977. Several hundred drums of chemical wastes, including *acids, bases,* organic solvents, and contaminated soil, were stored both outside and inside the fenced site. Some drums were damaged in a fire, and others were corroded and leaking. Four 2,000-gallon tanks of solvents were located on site. A *lagoon* was used for disposal of waste *sludges*. Carolawn constructed two incinerators; however, they were never used to dispose of wastes. State inspections in 1979 revealed improper storage of wastes and a lack of progress toward disposal of waste materials. The company was not able to obtain a permit for incineration and went bankrupt in 1980. During the same year, the South Carolina Department of Health and Environmental Control (SCDHEC) sampled three private wells and found them contaminated. Approximately 100 people live within a 1-mile radius of the site; 2,000 people live within 4 miles. Significant amounts of contaminated *runoff* from the site have *migrated* into a tributary of the Catawba River, which supplies drinking water to the town of Lugaff.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY
Proposed Date: 12/01/82
Final Date: 09/01/83

Threats and Contaminants



The groundwater is contaminated with lead, chloroform, and various *volatile organic compounds* (VOCs). Stream *sediments* are contaminated with arsenic, lead, and methylene chloride. The soil is contaminated with lead and the surface water is contaminated with chloroform. People who accidentally touch or ingest contaminated groundwater, surface water, soil or sediments may be at risk.

Cleanup Approach

This site is being addressed in two stages: immediate actions and a *long-term remedial phase* focusing on cleanup of the entire site.

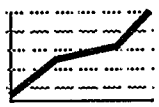
Response Action Status

Immediate Actions: In 1981 and 1982, the EPA removed contaminated sludge and solid waste from the lagoon. The liquid wastes were recycled and the solid wastes were disposed of in a federally approved facility. In 1985, alternate drinking water was provided by Carolawn to nearby homes. In 1986, the EPA extended the municipal waterlines to the affected residences, and the EPA removed approximately 1,000 drums, 220,000 gallons of liquid wastes, 5,000 gallons of contaminated water, and the tanks stored outside the fence to a federally approved facility.

Entire Site: In 1989, the EPA chose a remedy to clean up the site which included: (1) installing a groundwater extraction system; (2) removing pollutants by various techniques including filtering the groundwater through an activated carbon filter, contact with air to evaporate contaminants, or biological treating; (3) monitoring the groundwater; and (4) further sampling of soil north of the fenced area. The EPA is sampling the soil and conducting studies on the type and extent of its contamination. The potentially responsible parties are preparing the technical specifications and design for cleaning up the groundwater. The cleanup will begin once the design phase is completed in 1990.

Site Facts: The parties potentially responsible for the site contamination have signed an *Administrative Order* which specifies how design and constrution activities will be completed.

Environmental Progress

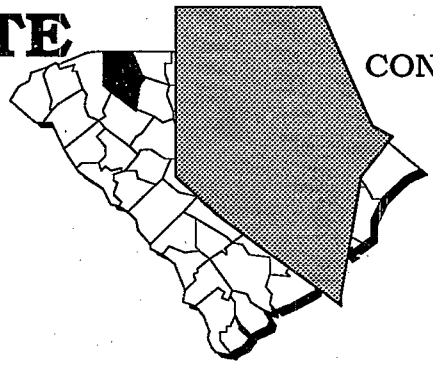


The removal of sludge, solid and liquid wastes have reduced the potential for exposure to contaminated materials at the Carolawn site. These actions and the extension of municipal waterlines have greatly reduced risks for the public health and the environment, while remedy designs and further cleanup activities take place.

ELMORE WASTE DISPOSAL

SOUTH CAROLINA

EPA ID# SCD980839542



REGION 4
CONGRESSIONAL DIST. 04
Spartanburg County
Greer

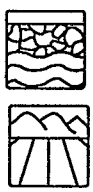
Site Description

The Elmore Waste Disposal site is a grassy field covering approximately 1/2 acre in a residential area. Drums containing unknown liquid wastes were deposited there between 1975 and 1977. In response to citizens' complaints of odors coming from the site, the South Carolina Department of Health and Environmental Control (SCDHEC) inspected the site and found numerous 55-gallon drums, some of which were leaking, and a 6,000-gallon buried tank. In 1977, the owner of the Elmore site signed a *Consent Order* with the State of South Carolina and conducted a partial cleanup of the site. After this action, 25 drums and the bulk tank remained. In 1980, the owner was instructed to stop cleanup actions until sampling was performed to verify the adequacy of earlier efforts. Investigations of site conditions by SCDHEC in 1986 and 1987 confirmed that the soil, *sediments*, and surface waters remain contaminated with *volatile organic compounds* (VOCs) and chromium. Wards Creek, a small tributary to the South Tyger River, flows about 700 feet north of the site.

Site Responsibility: This site is being addressed through a combination of Federal, State, and *potentially responsible parties'* actions.

NPL LISTING HISTORY
Proposed Date: 06/24/88
Final Date: 03/31/89

Threats and Contaminants

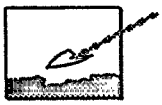


On-site monitoring wells detect contamination from heavy metals including cadmium, lead, zinc, and barium, and from various VOCs from former drum storage activities. The soil is also contaminated with heavy metals. Possible *migration* of contaminated groundwater to private wells may pose a threat to area residents. Monitoring wells at the site have shown groundwater contamination since 1987.

Cleanup Approach

This site is being addressed in two stages: initial actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

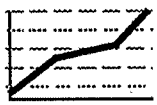


Initial Actions: The owner of Elmore attempted a partial cleanup in 1977 by surrounding some of the leaking drums with wood shavings, removing some of the deteriorated drums, and excavating and drumming some of the contaminated surface soil. The State completed this phase of the cleanup in 1986 by removing 5,477 tons of contaminated soil and debris and 16,840 pounds of contaminated liquids to a hazardous waste facility. These actions have controlled the source of contamination and eliminated immediate threats to neighboring residents.

Entire Site: The EPA is about to begin field work to investigate the nature and extent of contamination and to develop and select alternative cleanup strategies for the remaining site contamination. Upon completion of the study in 1991, the EPA will select a final remedy for site cleanup.

Site Facts: In 1977, the owner of Elmore Waste Disposal entered into a Consent Order with the State to clean up and properly dispose of the waste.

Environmental Progress

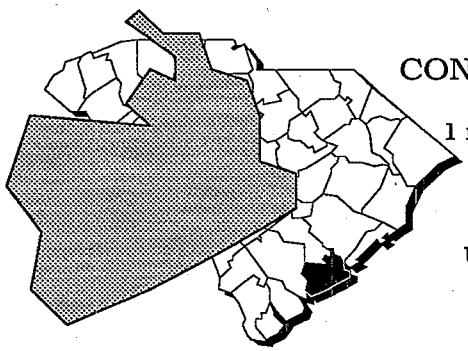


The removal of soil and drums has greatly reduced the potential for people to be exposed to hazardous substances at the Elmore Waste Disposal site while further studies and cleanup activities are taking place.

GEIGER SITE (C & M OIL)

SOUTH CAROLINA

EPA ID# SCD980711279



REGION 4

CONGRESSIONAL DIST. 01

Charleston County

1 mile northeast of Rantowles

Aliases:
Wm L Sires/C & M Oil
United Pollution Control

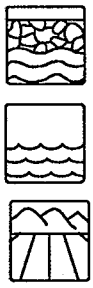
Site Description

The Geiger site, previously known as the C & M Oil site, occupies about 5 acres. In 1969, Adams Run Services, Inc. was permitted to incinerate waste oil at the site. In 1971, eight unlined *lagoons* were constructed to hold the waste oil. In response to complaints from area residents, the South Carolina Pollution Control Authority ordered all incineration and waste disposal activities at the site stopped; also, the owner was required to take action to prevent spillage, leakage, or *seepage* of oil from the site. In 1974, the Charleston County Health Department ordered the site closed citing evidence of recent oil dumping and overflowing. In 1982, the site was purchased by the present owner who, in 1983, filled the lagoons with local soils since his requests to excavate and dispose of contaminated soil were denied. The site has since been used for the storage of equipment by his company, Pile Drivers, Inc. Crops, pasture lands and sand *borrow pits* are scattered within 1 mile of the site. Approximately 40 people live within 1/4 mile of the site. The closest population center is the town of Rantowles, located 1 mile northeast; the town of Hollywood is 4 miles west.

Site Responsibility: This site is being addressed through Federal actions.

NPL LISTING HISTORY
Proposed Date: 09/01/83
Final Date: 09/01/84

Threats and Contaminants



The groundwater is contaminated with heavy metals and various *volatile organic compounds* (VOCs) from former activities at the site. The *sediments* are contaminated with *polychlorinated biphenyls* (PCBs). The soil and surface water are contaminated with all contaminants listed above. Workers or residents may be exposed to health hazards if direct contact is made with contaminated sediments, soils, surface water, or groundwater from the shallow *aquifer* wells. *Runoff* from the site flows through hardwood swamps and marshes.

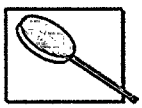
Cleanup Approach

This site is being addressed in three *long-term remedial phases* focusing on source removal, soil, and groundwater.

Response Action Status

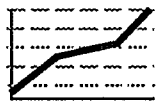
Groundwater: A groundwater investigation was conducted at the site after initial cleanup decision was made. The work involved the inspection of existing monitoring wells, installation of additional monitoring wells, and the installation of off-site residential drinking water wells. The cleanup technology selected is removing and treating of the contaminated groundwater, which will then flow to an off-site stream. Design of technologies to be used for the cleanup is under way.

Source Removal: The cleanup process that the EPA will perform includes: (1) removing and treating soil on site with heat to remove organic contaminants; (2) removing the water from the soil and solidifying the thermally treated soil to ensure that metals cannot leave the soil; and (3) *backfilling* the excavated areas with treated soil, followed by grading and covering. A study began in 1989 to establish soil cleanup criteria for lead and chromium.



Soil: This phase will involve the field investigations, treatability study, and remedial design for the treatment of contaminated soil. The site investigation is scheduled to begin in 1990.

Environmental Progress

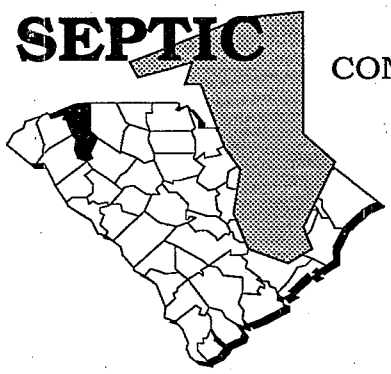


After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were required at the Geiger site while further studies and cleanup actions are continuing.

GOLDEN STRIP SEPTIC TANK SERVICE

SOUTH CAROLINA

EPA ID# SCD980799456



REGION 4

CONGRESSIONAL DIST. 01

Greenville County

Greenville

Site Description

The Golden Strip Septic Tank Service site consists of five abandoned *lagoons* covering 2 acres on a farm. From 1960 to 1975, the company deposited plating wastes and other liquids from nearby industries into the lagoons. The lagoons were unlined and had no structures to prevent rainfall *runoff* from leaving them. In 1978, three lagoons that had dried up were filled with dirt, but two still contain liquids. Tests conducted by the South Carolina Department of Health and Environmental Control and the EPA indicated contamination of groundwater and *sediments* near Rice Spring, which is about 500 feet from the lagoons, as well as heavy metals contamination in the lagoons. Approximately 1,600 people live within 3 miles of the site and use private wells for drinking water. Cows graze on the site. The site is in the drainage basin of Gilder Creek, which is used for recreational activities.

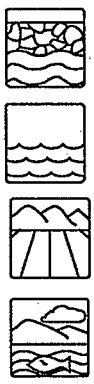
Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 01/22/87

Final Date: 07/07/87

Threats and Contaminants



Groundwater contains heavy metals including chromium, cadmium, lead, zinc, and cyanide which have *leached* from the lagoons. The stream sediments, soil, and surface water are also contaminated with heavy metals. People who use contaminated spring or well water for drinking water supplies may be at risk. Contaminated fish from Gilder Creek may pose a health risk to those who eat them. Children who trespass on the fenced site and accidentally touch or ingest contaminated soil or groundwater may suffer health threats..

Cleanup Approach

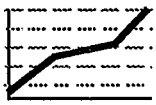
This site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: The parties potentially responsible for site contamination are studying the type and extent of groundwater and other contamination at the site. Once the study is completed in 1991, the EPA will select the most appropriate remedies for the cleanup of this site.

Site Facts: The potentially responsible parties have signed an *Administrative Order* with the EPA to conduct a study on the type and extent of contamination.

Environmental Progress

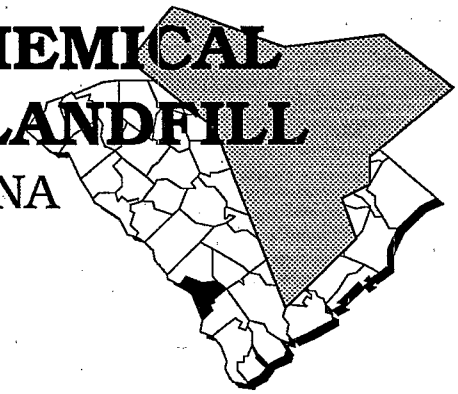


After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were needed at the Golden Strip Septic Tank Service site while further studies and cleanup actions are taking place.

HELENA CHEMICAL COMPANY LANDFILL

SOUTH CAROLINA

EPA ID# SCD058753971



REGION 4

CONGRESSIONAL DIST. 03

Allendale County

Fairfax

Site Description

From 1971 to 1978, the Helena Chemical Company formulated pesticides in Fairfax; previous operations date from the early 1960s. The company disposed of pesticides and empty pesticide containers in an unlined *landfill.* In 1985, the South Carolina Department of Health and Environmental Control detected contaminants in the on-site shallow monitoring wells. *Sediments* were also found to be contaminated. The shallow *aquifer* is connected to the lower aquifer, potentially permitting contaminated water to move into it. The lower aquifer provides water to Fairfax municipal wells within 3 miles of the site. These wells serve approximately 2,200 people. The nearest municipal well is about 500 feet away from the site.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 02/21/90

Threats and Contaminants

Groundwater, soil and sediments are contaminated with various pesticides from the former disposal of pesticide wastes. People who accidentally touch or ingest contaminated groundwater or sediments may be at risk.

Cleanup Approach

This site is being addressed in initial actions and a *long-term remedial phase* focusing on cleanup of the entire site.

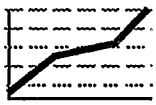
Response Action Status

Initial Actions: In 1984, under State supervision, the company removed some of the waste, transported it to an approved hazardous waste facility, and covered the site with clay.

Entire Site: Helena Chemical is studying the type and extent of contamination from pesticide disposal activities on the site. Once the study is finished in 1991, the EPA will select the most appropriate remedies, and will begin cleanup activities soon thereafter.

Site Facts: In 1981, the State and Helena Chemical signed a *Consent Order* requiring the company to study the contamination and then clean up the site. In 1984, they signed another agreement to cover the landfill and monitor the groundwater for 30 years.

Environmental Progress

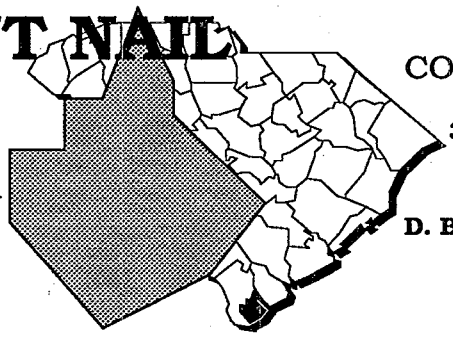


The initial actions to remove wastes and cover the area have reduced risks to the public health at the Helena Chemical Company Landfill site while further studies and cleanup activities are taking place.

INDEPENDENT NAIL COMPANY

SOUTH CAROLINA

EPA ID# SCD004773644



REGION 4

CONGRESSIONAL DIST. 01

Beaufort County

3 miles northwest of Beaufort

Alias:

D. Blake & Johnson Company, Inc.

Site Description

The Independent Nail Company currently operates a paneling nail coating process on this site. The previous owners of the site, the D. Blake and Johnson Co., manufactured metallic screws and fasteners. As a part of the manufacturing process, the company discharged approximately 33,000 to 75,000 gallons per day of plating wastewater containing heavy metals into an unlined infiltration *lagoon*. The lagoon was in use from 1969 to 1980, when Blake and Johnson ceased operations. That same year, the Independent Nail Company purchased the plant. As part of the process of selling the property, Blake and Johnson installed monitoring wells that showed some effect from the lagoon on the groundwater. Further studies by the State also noted movement of contaminants to groundwater. The surrounding area is a combination of fields, woodlands, and *wetlands*. Approximately 25 people live within 1/4 mile of the site.

Site Responsibility: This site is being addressed through Federal and State actions.

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Threats and Contaminants

The *sediments* and soil were contaminated with heavy metals including chromium, zinc, cyanide, arsenic, cadmium, lead and mercury from the former disposal activities. The groundwater contains these same compounds. Touching the contaminated sediments or soil were the primary means of human exposure.

Cleanup Approach

This site was addressed in three stages: immediate actions and two *long-term remedial phases* focusing on groundwater assessment and cleanup of the entire site.

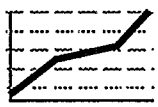
Response Action Status

Immediate Actions: The EPA fenced the area around the lagoon in 1988 to restrict access to the wastes on site.

Groundwater: After a thorough field investigation conducted by the EPA, it was concluded that there was no risk to human health or the environment from the low level of contaminants in the groundwater. Thus, no action was required to clean up the contaminants in the groundwater.

Entire Site: The EPA chose the following methods to clean up the site: (1) excavation of contaminated soils and lagoon sediments; (2) solidification and *stabilization* of excavated soils and sediments; (3) placement of treated soils and sediments back into the lagoon with 6 inches of topsoil, followed by covering and seeding. The EPA completed these cleanup actions in 1988 and is working with the State to ensure proper operation and maintenance at the site. With the completion of these actions, the EPA is planning to delete the site from the NPL.

Environmental Progress



All activities have been completed at the Independent Nail Company site and all surface contamination has been cleaned up. Additionally, the EPA has determined that groundwater resources do not pose a threat to the public and that no cleanup actions were required to address low levels of contamination. Extensive evaluations of the completed remedies and site sampling has determined that the Independent Nail Company site is now safe to nearby residents and the environment while the EPA satisfies all requirements to delete the site from the NPL.

KALAMA SPECIALTY CHEMICALS

SOUTH CAROLINA

EPA ID# SCD094995503

REGION 4

CONGRESSIONAL DIST. 01

Beaufort County

5 miles northwest of Beaufort

Site Description

Two specialty chemical companies operated at the Kalama Specialty Chemicals site, which covers 16 acres. From 1973 to 1977, the first firm, Vega Chemical, produced a wide range of chemicals in small, special-order batches for manufacturers and larger chemical producers. Kalama bought the property in 1977 to manufacture fosamine ammonium, an herbicide and plant-growth regulator. The facility closed in 1979, after one of the reactors exploded. This event caused large-scale spillage of various organic chemicals. Afterwards, the company bought 50 acres adjoining the site, including a trailer park located just above its northern boundary. The trailers were removed, but several abandoned, dilapidated houses remain. In 1988, the EPA reported that a construction company operated on Kalama property at the eastern edge of the site, but it made plans to relocate that same year. The site still contains a wastewater *lagoon* that at one time overflowed into a tile drainage field. This, as well as the explosion, contaminated shallow groundwater. The site is in the recharge zone of an important source of groundwater. The site is located in a fast-growing coastal area and is surrounded primarily by residential neighborhoods. The closest home is less than 100 yards away, and a day care center lies less than 1/4 mile south. Approximately 16,000 people live within a 4-mile radius of the property; 2,500 reside within 1 mile of the site. Independent Nail Company and Wamchem, Inc. are two other NPL sites located with 4 miles of this site.

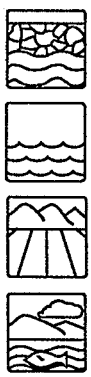
Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Threats and Contaminants



On-site groundwater, surface water, and soil contain lead and *volatile organic compounds* (VOCs) including benzene and toluene. Trespassers on the site may be exposed by touching contaminated soil, surface water, or groundwater or accidentally swallowing any of the contaminated materials. The property is fenced, but the gate was breached. This site lies in a coastal area, threatening wildlife and aquatic life.

Cleanup Approach

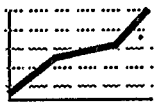
This site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: In 1988, the parties potentially responsible for site contamination began preparing for an intensive study of its pollution problems. This investigation, conducted under EPA monitoring, will measure the type and extent of soil and water pollution around the property. The study is scheduled for completion in late 1990, at which time EPA will select the most appropriate remedies for cleanup of this site.

Site Facts: A *Consent Order* was signed in 1989 for the parties potentially responsible to conduct site studies.

Environmental Progress

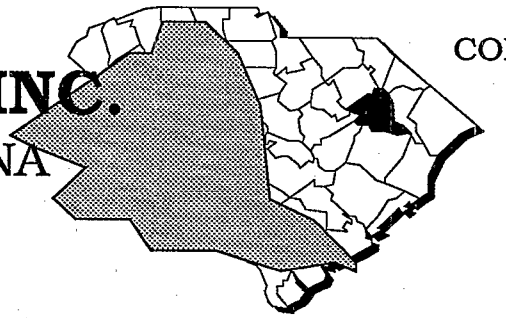


After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were required at the Kalama Specialty Chemicals site while further studies and cleanup activities are taking place.

KOPPERS COMPANY, INC.

SOUTH CAROLINA

EPA ID# SCD003353026



REGION 4

CONGRESSIONAL DIST. 06

Florence County

1/2 mile east of Florence

Site Description

The 145-acre Koppers Company, Inc. site is an active wood-treating and preserving plant that still generates hazardous wood preserving chemicals. The company currently uses three preservatives in its operations: *creosote, pentachlorophenol* (PCP), and *chromated copper arsenate* (CCA). State and Federal permits for wastewater discharges required the owner to upgrade operating practices on several occasions, starting in 1971. The State required the plant's liquid wastes to be sprayed over a field and allowed to evaporate. In addition, the company pumped "penta-oil" wastes into four unlined *lagoons* where it was released through by evaporation and *seepage*. In 1974, the operation violated the limits of its Federal discharge permit, and the EPA ordered the owner to study and control *runoff*. The study recommended closing the penta-oil lagoons, the creosote lagoon, and the spray field and replacing them with three concrete-lined solar oxidation ponds. Liquid from the final pond would be sprayed over land. The State approved the new system in 1977, and the EPA focused its concerns on stormwater discharge only. In 1979, the plant's drinking water supply became contaminated with napthalene, and by the next year, nearby residents reported a creosote odor and foul taste in their wells. The State ordered the company to study the groundwater problem. In response, the company supplied public water to homes that were affected, and the owners installed recovery wells to retrieve and slow the movement of contaminants in the groundwater. The recovered groundwater and process wastewater is now sent to the pre-treatment facility on site and then discharged to the water treatment facility. The site is located adjacent to a growing area of Florence. Homes and apartments, hospitals, schools, and a day care center are all located with a 1-mile radius, as are mobile homes, agricultural lands, an airport, businesses, and light industries. Access to the site is unrestricted. The residential areas are 1/4 mile away from the site and contain gardens, livestock, and private wells. At least 1,200 people use the shallow a*quifer* for drinking water.

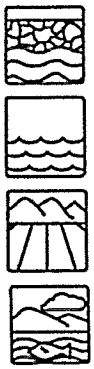
Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Threats and Contaminants



On-site groundwater, surface water, and soil are contaminated with *polycyclic aromatic hydrocarbons* (PAHs), PCP, heavy metals including arsenic and mercury, and oil and grease from wood-treatment activities. PAHs and other organic chemicals were detected in off-site private wells in 1985. People may experience adverse health effects through touching, inhaling, or accidentally ingesting contaminated groundwater and soil. Contamination was detected in some private wells *downslope* from the plant in 1985. The plant is also located in an area where water may recharge directly to the Black Creek/Middendorf Aquifer. This aquifer is the only source of potable water that the city of Florence uses.

Cleanup Approach

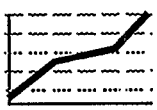
This site is being addressed in two stages: immediate actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Immediate Actions: The parties potentially responsible for site contamination studied the groundwater problem, furnished an alternate water supply to affected residents, and came up with a plan to install recovery wells and treatment systems.

Entire Site: Under EPA monitoring, the owner of the site began a study of the site's pollution problems in 1988. This study will define the nature and extent of contamination. Once the study is completed, alternatives for site cleanup will be evaluated, and EPA will select the most appropriate remedies for cleanup of this site.

Environmental Progress

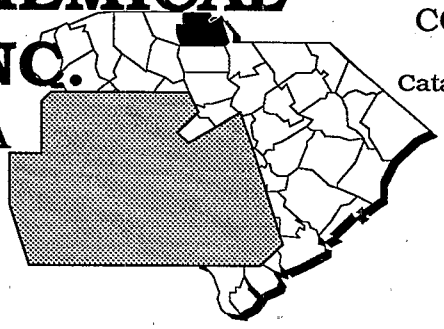


The alternate water supply has eliminated the potential for exposure to hazardous materials from the Koppers Company, Inc. site through the groundwater. Further studies and cleanup activities are being completed to address contaminated waters and soils.

LEONARD CHEMICAL COMPANY, INC.

SOUTH CAROLINA

EPA ID# SCD991279324



REGION 4

CONGRESSIONAL DIST. 05

York County

Catawba, 9 miles southeast of Rock Hill

Alias:
Leonard Chemical

Site Description

The 7-acre Leonard Chemical Company site began operating in the late 1960s as a hazardous waste treatment facility. Its primary treatment method was distillation. Recovery residues were placed in various locations on the site. Plant operations ceased in 1982 under orders of the South Carolina Department of Health and Environmental Control. Approximately 3,400 drums and 11,500 gallons of various chemicals were left on the site. Materials included solvents, *volatile organic compounds* (VOCs), printing inks, polyester solids, *stillbottoms,* and filters for paint, water, and fiberglass. Numerous spills and leaks occurred, threatening groundwater, and the State ordered the owner to install three monitoring wells. By 1988, the site was overgrown with scrub and covered with abandoned equipment and machines. Numerous *sludges* lay on the ground, and vegetation was spotty where chemicals wastes and still bottoms had been used as fill. The gate and fence had been breached and signs of trespassing were evident. Approximately 5,900 people live within a 4-mile radius of the site; 240 people live within a mile.

Site Responsibility: This site is being addressed through a combination of Federal, State, and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

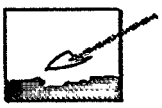
Threats and Contaminants

On-site groundwater and soil are contaminated with heavy metals including barium, lead, and manganese, as well as various VOCs from the former disposal activities. Individuals could be harmed if they use contaminated water for drinking, bathing, cooking, or irrigation or accidentally ingest contaminated soils.

Cleanup Approach

This site is being addressed in two stages: immediate actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

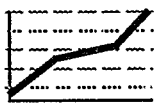


Immediate Actions: In 1983, a group of *generators* responsible for the chemical wastes found on the site formed a committee and retained a contractor to remove wastes from the site. Workers removed drums and some of the contaminated soil that same year.

Entire Site: Under State supervision, the parties potentially responsible for site contamination are preparing a draft work plan for an intensive study which will explore the nature and extent of pollution problems at the site. The study is scheduled for completion in 1991 at which time EPA will select the most appropriate remedies for cleanup of the site.

Site Facts: Under a 1983 court order, Leonard Chemical Company cannot resume operation without prior approval of the South Carolina Department of Health and Environmental Control. The parties potentially responsible for site contamination will sign an *Administrative Order on Consent* to conduct a study to determine the nature and extent of contamination and to identify alternatives for cleanup.

Environmental Progress



The removal of contaminated drums and soils has reduced the potential for exposure to hazardous substances while further investigations and cleanup activities take place at the Leonard Chemical Company site.

LEXINGTON COUNTY LANDFILL

SOUTH CAROLINA

EPA ID# SCD980558043

REGION 4

CONGRESSIONAL DIST. 02

Lexington County

2 miles south of Cayce

Site Description

The Lexington County Landfill site is a 75-acre sand pit that was licensed as a county *landfill* in 1971. Before 1980, local industries were allowed to dispose of their wastes, which included asbestos, at the site. Two other dumps lie next to this site: the Cayce Dump, operational in the 1960s, and the unlicensed Bray Park Dump, used prior to 1972. In 1987, the EPA found heavy metals and pesticides in on-site monitoring wells. Approximately 6,200 people get their drinking water from public and private wells within a 3-mile radius of the site. The contaminated shallow *aquifer* is hydraulically connected to deeper aquifers providing a potential pathway for the spread of contamination. A local resident has abandoned a contaminated well, which tapped a shallow aquifer. About 250 acres of farmland are irrigated by a well within 3 miles of the site.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 10/04/89

Threats and Contaminants

In 1987, the EPA found heavy metals including arsenic, cadmium, mercury, selenium, as well as pesticides from former disposal practices in on-site monitoring wells. Drinking contaminated groundwater is a possible health threat, as is eating foods that are irrigated by possible contaminated waters.

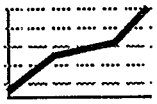
Cleanup Approach

This site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: The parties potentially responsible for site contamination are undertaking an intensive study of its problems. This investigation, which began in 1989, will explore the nature and extent of groundwater contamination and will recommend the best strategies for final cleanup. Local authorities are currently monitoring the groundwater.

Environmental Progress

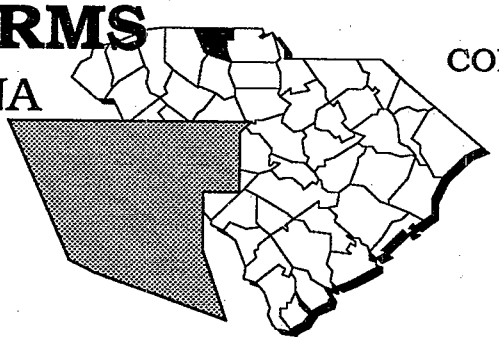


After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were required at the Lexington County Landfill site while further studies and cleanup activities are continuing.

MEDLEY FARMS

SOUTH CAROLINA

EPA ID# SCD980558142



REGION 4

CONGRESSIONAL DIST. 05

Cherokee County

5 miles south of Gaffney

Site Description

The 7-acre Medley Farms site was used as a chemical depository from 1973 to 1976. An anonymous caller informed the State of potential contamination at the site in 1983. When the State visited the site, approximately 2,000 55-gallon drums in various conditions and six unlined *lagoons* were found. At the State's request, the EPA investigated and found that all the drums were rusted and some had leaked or were leaking. EPA analyses indicated that the drums contained numerous flammable organic liquids and *polychlorinated biphenyls* (PCBs). The lagoons held 70,000 gallons of contaminated rainwater and tons of *sludges*. Approximately 3,300 people reside within a 4-mile radius of the site. Approximately 300 people live within 1 mile and 120 people obtain drinking water from private wells within 3 miles of the site. Thickety Creek, a tributary of Jones Creek, is about 300 feet *downgradient* of the site.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/01/86

Final Date: 03/31/89

Threats and Contaminants

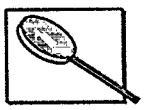
The groundwater and soil are contaminated with *volatile organic compounds* (VOCs) from former site operations. Methylene chloride and *phenols* were detected in one off-site well located less than 1/4 mile from the site. Potential risks may exist for individuals who drink, come in contact with, or inhale vapors from contaminated groundwater. Direct contact with contaminated surface soil and accidental ingestion of soil may pose risks to individuals; however, since the majority of contaminated soil has been removed, the threat of exposure has been reduced.

Cleanup Approach

This site is being addressed in two stages: immediate actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

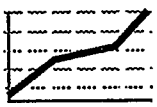
Immediate Actions: In 1983, the EPA removed 2,400 cubic yards of contaminated soil and sludges plus the drums and their contents (25,000 gallons of liquids) and transported the materials to a federally regulated hazardous waste facility. The liquids in the lagoons were treated on site and discharged. The lagoons were then filled with clean soils.



Entire Site: In 1988, the parties potentially responsible for the site contamination began a study to determine the type and extent of contamination at the site and in the local groundwater. They will also conduct a study to determine the alternative technologies available for the cleanup.

Site Facts: An *Administrative Order on Consent* signed in 1988 outlines conditions under which the potentially responsible parties will conduct a study to determine the type and extent of contamination on and off site.

Environmental Progress

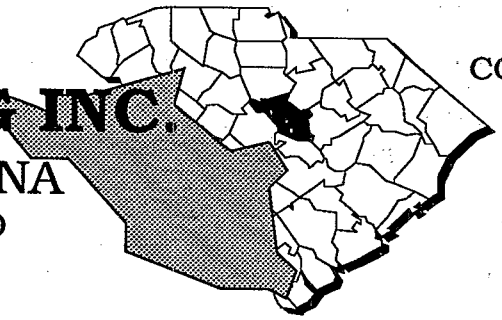


The immediate soil, sludge and liquid waste treatment has greatly reduced the potential for people to be exposed to hazardous substances at the Medley Farms site while further studies and cleanup activities are taking place.

PALMETTO RECYCLING INC.

SOUTH CAROLINA

EPA ID# SCD037398120



REGION 4

CONGRESSIONAL DIST. 03

Richland County

8 miles north of Columbia

Site Description

The 2-acre Palmetto Recycling Inc. site reclaimed lead, primarily from lead *acid* batteries, from 1979 to 1982. In 1981, the South Carolina Department of Health and Environmental Control (SCDHEC) denied the applications of Palmetto Recycling for permits to operate a hazardous waste facility and to transport hazardous wastes. SCDHEC determined that wastes remaining at the site included 1,800 gallons of acid wastes in an unlined 5-foot deep pit, 100 drums of liquid caustic wastes, and an *unstabilized* 260-cubic-foot pile of battery casing scraps. Approximately 4,200 people draw drinking water from an *aquifer* within 3 miles of the site. Approximately 200 people live within a 1-mile radius of the site; the closest residence is 100 yards away. The site is surrounded by numerous lakes, streams, and rivers. The nearest surface water, the North Branch of Crane Creek, is about 100 yards east of the site and eventually flows into the Broad River. The creek is used for recreation.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 01/22/87

Final Date: 07/07/87

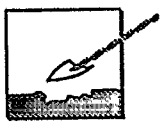
Threats and Contaminants

Heavy metals including lead, cadmium, chromium, and barium have contaminated the soil surrounding the pit and the disposal areas. Touching the contaminated soil poses a potential threat to the public. The contaminants may have entered the food chain through plants and animals that may have *bioaccumulated* toxic levels of heavy metal contamination. Nearby streams may also be at risk from the *migration* of site contaminants.

Cleanup Approach

This site is being addressed in two stages: immediate actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

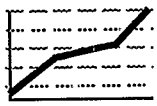


Immediate Actions: In 1986, the parties potentially responsible for the site contamination removed the hazardous and the non-hazardous wastes on the site. This phase of the cleanup has eliminated the immediate threat to area residents and helped to limit further contamination of the site and surrounding resources.

Entire Site: The EPA plans to investigate the site in 1990 to determine the impact of the contamination on and off the site and to determine whether contaminants have migrated from the site. The investigation will recommend the best remedies to clean up the site.

Site Facts: In 1983, an U.S. bankruptcy judge issued a court order requiring the trustee of the property to clean up waste and contaminated soil. The judge authorized cleanup of nonhazardous waste in 1984 and hazardous waste in 1985. Cleanup activities were completed by 1986.

Environmental Progress

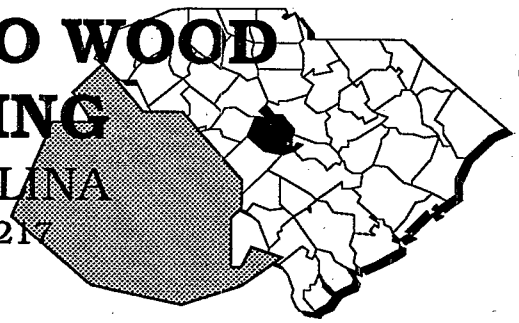


The immediate removal of wastes has eliminated the surface contamination and greatly reduced the potential for people to be exposed to hazardous materials at the Palmetto Recycling site while further studies and cleanup activities are taking place.

PALMETTO WOOD PRESERVING

SOUTH CAROLINA

EPA ID# SCD003362217



REGION 4
CONGRESSIONAL DIST. 02
Lexington County
6 1/2 miles northwest of Columbia

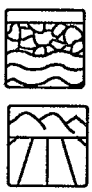
Site Description

The 5-acre Palmetto Wood Preserving (PWP) site is a *decommissioned* wood preserving facility that operated between 1963 and 1985. In 1963, PWP used two processes for its operation: fluoride-chromate-arsenate-*phenol* and an *acid*-copper-chromate process. In 1980, Eastern Forest Products took over and switched to a *chromated copper arsenate* (CCA) process. Operations consisted of treating wood with a CCA solution under high pressure and allowing the wood to dry under normal conditions. The plant consisted of a pressure vessel, a narrow gauge rail line, solution storage tanks, a drip shed, and storage and office buildings. All equipment was moved from the site in 1985. The rural area that surrounds the site has a population of approximately 2,000. The shallow *aquifer*, which supplies drinking water to 2,000 people, is contaminated. The State determined that high levels of chromium have contaminated nearby private wells.

Site Responsibility: This site is being addressed through Federal actions.

NPL LISTING HISTORY
Proposed Date: 09/01/83
Final Date: 09/01/84

Threats and Contaminants



The groundwater and soil are contaminated with heavy metals including arsenic. Off-site soil is contaminated with chromium and *pentachlorophenol* (PCP) from former process wastes. The State detected high levels of chromium in private wells near the site. This poses a potential health threat if water or soil is accidentally swallowed or touched.

Cleanup Approach

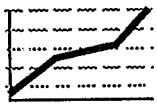
This site is being addressed in two stages: immediate actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Immediate Actions: In 1985, the EPA provided a temporary alternative drinking water supply to a residence until a permanent water supply could be provided to the property. In 1990, a municipal water line to the residence was installed.

Entire Site: Soil cleanup began in 1989. Approximately 12,685 cubic yards of contaminated soil were excavated, treated, solidified, and placed to eliminate off-site contaminant *migration*. This portion of the cleanup was completed that same year. Groundwater cleanup is now under way.

Environmental Progress

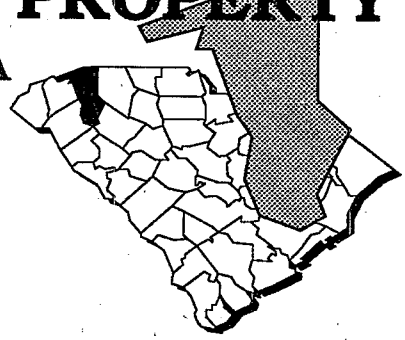


The provision of an alternate water supply has eliminated the potential for exposure to hazardous materials from the Palmetto Wood Preserving site through the groundwater. The cleanup of contaminated soils has been completed and further cleanup activities continue to deal with contamination in the groundwater.

ROCHESTER PROPERTY

SOUTH CAROLINA

EPA ID# SCD980840698



REGION 4
CONGRESSIONAL DIST. 04
Greenville County
3 miles from the town of Travelers

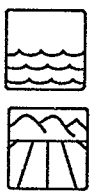
Site Description

The Rochester Property site comprises 2 acres and is located in a rural area. Polymer Industries disposed of wastes possibly consisting of wood glue and print binder residues at this site in 1971 and 1972. Initially, the wastes were trucked to the site in metal and fiber drums which were later placed in four trenches. Three of the trenches were unlined; however, a plastic sheath may have been present in at least one. In 1982, the South Carolina Department of Health and Environmental Control (SCDHEC) discovered the site when one of its employees noticed that waste was oozing from the ground during a routine septic tank investigation on an adjacent property. SCDHEC did not license the site to receive hazardous waste. The State's investigation report estimates that the total amount of waste present on site is about 175 cubic yards. The site is fenced and located approximately 200 feet *upslope* from a small stream. Approximately 1,000 people live within 3 miles of the site and about 12,500 people live within a 4-mile radius of the site.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY
Proposed Date: 06/01/86
Final Date: 10/04/89

Threats and Contaminants



On-site *sediments* and soil in and around the four trenches are contaminated by various heavy metals and *volatile organic compounds* (VOCs) from former disposal activities. Site contaminants could *leach* into groundwater that is just 10 feet below the site. Residents could be exposed to the contaminants through direct contact with contaminated soils or sediments or by drinking groundwater if contamination exists in the *aquifer*.

Cleanup Approach

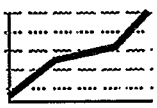
This site is being addressed in a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: The parties potentially responsible for the site contamination will conduct an investigation to determine the best way to clean up soil and sediment contamination on the site. The status of the investigation is on hold due to technical complications. The main issue of conflict concerns the amount of arsenic in the soil, some of which is thought to be attributed to fertilizers, pesticides, and other chemical substances used by local farmers.

Site Facts: Nearby residents have stated their concerns about the site in letters addressed to the Governor of South Carolina and their respective legislative representatives.

Environmental Progress



After adding this site to the NPL, the EPA performed preliminary site investigations and determined that there were no immediate actions needed at the Rochester Property site. Further investigations are continuing, and cleanup activities are scheduled to begin soon.

ROCK HILL CHEMICAL COMPANY/ RUTLEDGE PROP.

SOUTH CAROLINA

EPA ID# SCD980844005

REGION 4

CONGRESSIONAL DIST. 02

York County

Rock Hill

Alias:
Rock Hill Chemical

Site Description

The Rock Hill Chemical Company operated a solvent distillation facility in the 1960s on this 4 1/2-acre site located in a light commercial and residential area. The company distilled paint solvents and may have recovered textile dye products. Some of the residue from the bottoms of the storage tanks and drums was placed in piles on the ground and was later covered with dirt and construction debris. The facility was abandoned after it burned in 1964. In 1985, the EPA discovered above ground tanks, an underground tank, a *sludge* pile, and an area of discolored soil. An unnamed tributary to the Catawba River drains the site. Approximately 1,100 people obtain drinking water from wells within 3 miles of the site. The South Carolina Department of Health and Environmental Control advised a nearby business to stop using its well. Fort Mills draws drinking water for an estimated 5,500 people from an *intake* into the Catawba River that is approximately 2 miles downstream of the site.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 02/21/90

Threats and Contaminants

On-site wells are contaminated with various *volatile organic compounds* (VOCs) from former disposal practices. Wastes and soil samples are contaminated with lead, *polychlorinated biphenyls* (PCBs), chromium, and VOCs. A possible health threat may occur if people drink contaminated water from the unnamed tributary to the Catawba River or in contaminated on-site wells. Other threats include accidentally touching or ingesting contaminated wastes or soil.

Cleanup Approach

This site is being addressed in two stages: an immediate action and a *long-term remedial phase* focusing on cleanup of the entire site.

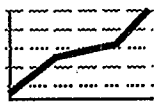
Response Action Status

Immediate Action: In 1986, First Federal Savings and Loan, one of two present owners of the site, transported approximately 41 cubic yards of paint sludges and *stillbottoms* to a federally regulated hazardous waste facility.

Entire Site: The parties potentially responsible for site contamination have started the investigation of the nature and extent of site contamination to determine the best method of cleanup for the site.

Site Facts: In 1987, under an EPA *Administrative Order*, Rutledge Enterprises discharged approximately 2,000 gallons of wastewater contaminated with solvents, in limited amounts every day, into the city sewer system for treatment in the municipal sewage treatment plant.

Environmental Progress

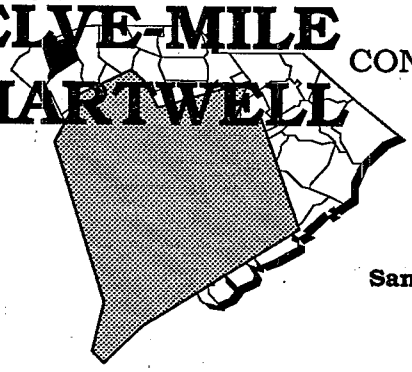


The immediate removal of waste has reduced the potential for people to be exposed to hazardous materials at the Rock Hill Chemical Company. These actions help to protect the public health and the environment while further investigations are taking place.

SANGAMO/TWELVE-MILE CREEK/LAKE HARTWELL

SOUTH CAROLINA

EPA ID# SCD003354412



REGION 4

CONGRESSIONAL DIST. 07

Pickens County

Pickens

Aliases:
Haygood Reservoir
Cross Roads Church
Sangamo Weston-Pickens Plant
Breazeale Property
Nix Site

Site Description

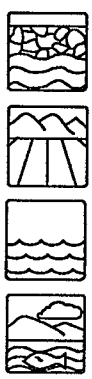
This 224-acre site encompasses the Sangamo Weston plant itself, at least six former dumps used by the company, and the Twelve-Mile Creek *watershed*, which includes Lake Hartwell. Sangamo Weston, Inc. manufactured electric capacitors that, from 1955 to 1976, used *polychlorinated biphenyls* (PCBs) for a non-conducting fluid. Solid waste, *sludges*, and liquid wastes were stored or disposed of in piles, *landfills*, and *impoundments*. The EPA is continuing to search for any additional sources of contamination, and may expand the site if contamination is found to extend further than site boundaries. PCBs have been found in the *runoff* leaving the plant, downstream tributaries of Twelve-Mile Creek, Lake Hartwell, and the distribution system of the Easley-Central Water plan, which provides drinking water to 14,500 people. A Clemson University *intake* in the Twelve-Mile Creek arm of Lake Hartwell serves approximately 16,000 students and employees. Swimming in the Six-Mile and the Twelve-Mile Creeks has been banned. A fish advisory for Lake Hartwell remains in effect and the State may extend the advisory to the nearby Tugaloo River.

Site Responsibility: This site is being addressed through a combination of Federal, State, and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/24/88

Threats and Contaminants

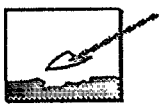


On-site groundwater and soil are contaminated with *volatile organic compounds* (VOCs) and PCBs from the former site activities. Private wells are in use within the area of contamination. PCB levels detected in the fish of Lake Hartwell and the tributary system vary with each sampling but tend to be well above an acceptable limit. People may be harmed if they fail to heed warning signs and come in contact with or eat contaminated fish, soil, or water.

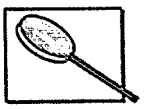
Cleanup Approach

This site is being addressed in three stages: initial actions and two *long-term remedial phases* focusing on the Twelve-Mile Creek watershed and cleanup of the entire site.

Response Action Status



Initial Actions: The State and the federal government have periodically sampled the area. Sangamo removed some soil at two disposal sites in 1975 and placed the soil in a landfill on the plant property. Under a 1986 *Consent Agreement* with the EPA, Sangamo placed a fence around the site and installed a temporary *cap* on contaminated portions of the site.

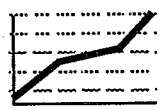


Twelve-Mile Creek Watershed: The EPA will investigate the nature and extent of contamination in the Twelve Mile Creek watershed, including portions of Lake Hartwell, and will take into account the data derived from fish studies performed by the South Carolina Department of Health and Environmental Control. The investigation is scheduled to begin in 1991.

Entire Site: In 1988, Sangamo conducted soil and groundwater sampling on and around the site properties. They will continue to characterize the source and extent of contamination.

Site Facts: In 1986, the EPA negotiated a *Consent Order* with Sangamo-Weston to study the contamination at one of the dumps. Under an additional Consent Order signed in 1987, Sangamo-Weston will study six dumps and the Pickens Plant.

Environmental Progress

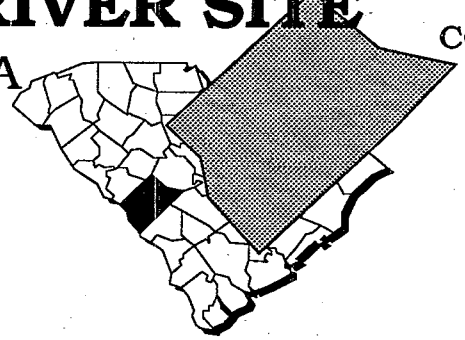


The soil removal, capping, and site security measures have greatly reduced the potential for people to be exposed to hazardous substances at the Sangamo/Twelve-Mile Creek/Lake Hartwell site while further studies and cleanup activities are taking place.

SAVANNAH RIVER SITE

SOUTH CAROLINA

EPA ID# SC1890008989



REGION 4

CONGRESSIONAL DIST. 03

Aiken County

Aiken

Aliases:

USDOE Savannah River Plant

Savannah River Plant

Site Description

Since 1951, the Savannah River Site has produced nuclear materials for national defense on a 192,000-acre site. First operated by the Atomic Energy Commission, it is now operated by the U.S. Department of Energy (DOE). The operations at the site generate a variety of radioactive and nonradioactive hazardous wastes. Past and present disposal practices include *seepage* basins for liquids, pits, and piles for solid wastes, and *landfills* for low-level radioactive wastes. In 1987, the DOE reported that shallow groundwater on various parts of the site had been contaminated. One of these areas is called the A-Area Burning/Rubble Pit, which received *degreasers* and solvents from 1951 through 1973. Another area that received drums of waste solvents has contaminated the soil. A small quantity of depleted uranium was released in 1984 into Upper Three Runs Creek. The creek and all other surface water from the plant flow into the Savannah River. The area around Savannah River is heavily wooded and ranges from dry hilltops to swampland. The 3,200 residents of Jackson receive drinking water from wells within 3 miles of hazardous substances at the site. The 17,000 employees at the facility also use the wells.

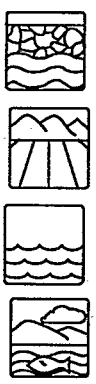
Site Responsibility: This site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 07/14/89

Final Date: 11/21/89

Threats and Contaminants



The groundwater contains *volatile organic compounds* (VOCs) from degreasing solvents; heavy metals including lead, chromium, mercury, and cadmium; and *radionuclides* including tritium, uranium, fission products, and plutonium. The soil is contaminated with VOCs including *trichloroethylene* (TCE). The swamp is contaminated with chromium, mercury, radium, thorium, and uranium, which overflowed from an old seepage basin. The health of people could be threatened if they drink or touch contaminated well water. The Upper Three Runs Creek and all other surface water from the site flows into the Savannah River, which is a major navigable river that forms the southern border between South Carolina and Georgia. Along this bank of the river is a 10,000-acre *wetland* known as Savannah River Swamp, an environmentally sensitive area.

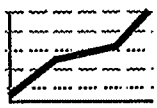
Cleanup Approach

This site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: The DOE is investigating the Savannah River site under its Comprehensive Environmental Assessment and Response Program. Under the program, the DOE is developing plans for studying several contaminated areas. Also, the DOE will close some areas of the site, while continuing to monitor these areas after *closure*. Investigations have begun and are expected to continue through 1991.

Environmental Progress

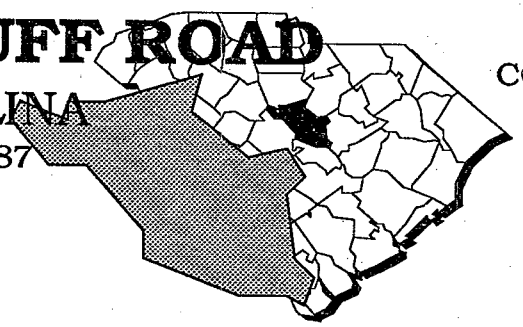


After adding this site to the NPL, the EPA and the DOE performed preliminary investigations and determined that there are no immediate actions needed at the Savannah River site while further investigations and cleanup activities are taking place.

SCRDI BLUFF ROAD

SOUTH CAROLINA

EPA ID# SCD000622787



REGION 4
CONGRESSIONAL DIST. 02
Richland County
7 miles from Columbia

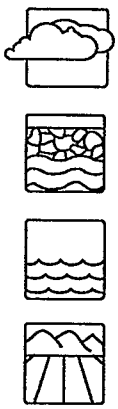
Site Description

The South Carolina Recycling and Disposal, Inc. (SCRDI) Bluff Road site covers 7 acres, 2 acres of which were used for waste storage. Approximately 7,200 drums of toxic, flammable, and reactive wastes were removed in 1982 by a group of hazardous waste *generators*; numerous smaller containers were also removed. Two small ponds at the northern end of the site are remnants of lime *slurry* disposal ponds used by the acetylene manufacturer that once occupied the property. Surface water and *sediment* may run into a tributary of Myers Creek, which discharges into Congaree Swamp National Monument. The site is in a rural and remote area. The nearest residence is 1/2 mile away, with approximately 3,500 people living within 4 miles. Recreational facilities, which include a swimming pool, are 1 mile east of the site. Approximately 1,200 people work at the Westinghouse Nuclear Fuel Facility less than 1/2 mile away.

Site Responsibility: This site is being addressed through a combination of Federal, State, and *potentially responsible parties'* actions.

NPL LISTING HISTORY
Proposed Date: 10/01/81
Final Date: 09/01/83

Threats and Contaminants

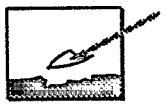


Toluene was detected in two of three bag samples of the air. Groundwater is contaminated with other *volatile organic compounds* (VOCs). Lead and various chlorine derivatives were identified in sediments on site. The soil contains lead, plastics, chlordane, and *creosotes*. Well water which may become contaminated would be hazardous to drink. A nearby swimming pool is filled with well water, making direct contact with contaminated water a possible health hazard.

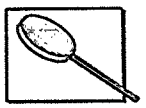
Cleanup Approach

This site is being addressed in two stages: immediate actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status



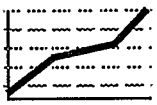
Immediate Actions: In 1982, the parties potentially responsible for the site contamination removed about 7,200 drums containing a wide variety of toxic, flammable, and reactive wastes.



Entire Site: The State initiated a study on the extent and nature of contamination at the site in 1985. This study, however, was not completed. A new study is being conducted by the potentially responsible parties. A method for cleaning up the site will be selected by EPA in 1990.

Site Facts: A group of the parties potentially responsible for contamination at the site are conducting studies to determine the extent of the contamination at the site under an *Administrative Order* entered into with the EPA in 1988.

Environmental Progress

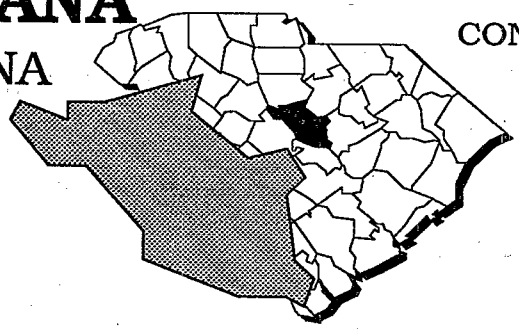


The immediate removal of drums greatly reduced the potential for people to be exposed to hazardous substances at the SCRDI Bluff Road site while further studies and cleanup activities are taking place.

SCRDI DIXIANA

SOUTH CAROLINA

EPA ID# SCD980711394



REGION 4

CONGRESSIONAL DIST. 02

Lexington County

Near Cayce

Site Description

At one time, the 2-acre South Carolina Recycling and Disposal, Inc. (SCRDI) Dixiana site contained over 1,100 drums of materials such as paints, solvents, *acids*, waste oils, *phenols*, and dyes. In 1978, SCRDI leased the site for drum storage of industrial wastes. Instances of poor handling practices, leaky drums, and exposure to the weather created a number of discharges to the environment prior to drum removal. In 1978, the State filed a suit against the site owners. The resulting court order specified that the site no longer receive wastes and that the wastes on site be *contained*. In 1980, as a result of SCRDI's failure to contain the wastes, a State court found SCRDI in contempt, which resulted in the company being placed in receivership. Shortly thereafter, SCRDI removed all drums and visibly contaminated soil. Spilled dye, a suspected carcinogen, contaminated shallow groundwater. Approximately 1,200 people use water supply wells within 3 miles of the site. The State has advised two nearby families not to use their well water.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 07/01/82

Final Date: 09/01/83

Threats and Contaminants

The groundwater contains *volatile organic compounds* (VOCs), *polyaromatic hydrocarbons* (PAHs), pesticides, and heavy metals from former site activities. Even though the groundwater is known to be contaminated, there is no one presently at risk as a result of the current site contamination. Groundwater contamination is moving off site in response to hydraulic gradients in various interconnected *aquifers*.

Cleanup Approach

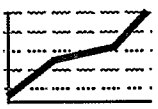
This site is being addressed in a single *long-term remedial phase* focusing on groundwater cleanup.

Response Action Status

Groundwater: The EPA began extracting contaminated groundwater, treating it to acceptable concentrations levels, and discharging the treated water to surface water. These activities are expected to be completed in 1992, with operation and monitoring required to last from 3 to 30 years.

Site Facts: The South Carolina Department of Health and Environmental Control denied a waste management permit and filed a suit against SCRDI in 1978.

Environmental Progress

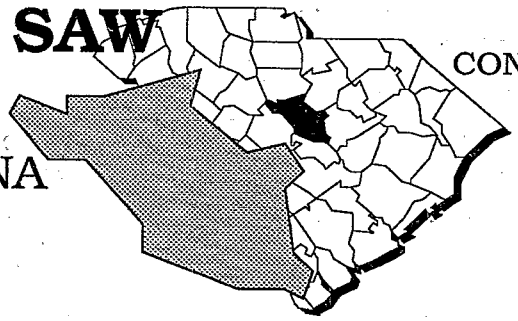


The groundwater cleanup activities and removal of drums have greatly reduced the potential for exposure to hazardous materials at the SCRDI Dixiana site while the groundwater treatment and monitoring actions are continuing.

TOWNSEND SAW CHAIN CO.

SOUTH CAROLINA

EPA ID# SCD980558050



REGION 4

CONGRESSIONAL DIST. 05

Richland County

Pontiac

Site Description

The Townsend Saw Chain Co. covers over 2 acres in Pontiac. The previous owner was Dictaphone Co., which sold out to Townsend in 1969. From 1969 to 1981, Townsend disposed of wastes containing heavy metals and solvents at the site. Private wells within 3 miles of the site serve an estimated 1,400 people. The nearest well is less than a mile from the site. A private well near the site was closed in 1981 to 1982, and the residence was connected to the public water system. Two creeks and two ponds are within 2 miles of the site; one, Woodcreek Lake, is used for recreational activities. Freshwater *wetlands* are within 1 mile of the site.

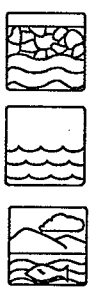
Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 02/16/90

Threats and Contaminants



A 1985 South Carolina Department of Health and Environmental Control (SCDHEC) study showed high levels of cadmium and chromium in groundwater at the site. A surface water sample near a spring at the site contained high levels of chromium and *volatile organic compounds* (VOCs), including dichloroethane and *trichloroethylene* (TCE). The residents near the site were hooked up to the city water supply in 1981 and 1982. Potential risks may exist for those individuals who drink or touch the contaminated surface water and groundwater. Creeks, ponds, and wetlands within 1 mile of the site may be threatened with *runoff* from the site.

Cleanup Approach

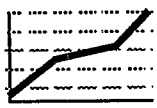
The site is being addressed in a single *long-term remedial phase* directed at cleanup of the entire site.

Response Action Status

Entire Site: The company has been pumping contaminated groundwater to the surface, treating it to remove the chromium, and spraying the treated water into a wooded area since 1985. The parties potentially responsible for the contamination began a study in 1990 to determine the type and extent of surface water and groundwater contamination at the site, as well as any other contamination. Additionally, a study will be completed to identify the most effective technologies for the cleanup. Upon completion of this study, EPA will evaluate recommended alternatives and select the most appropriate remedies for cleanup of the site.

Site Facts: In 1988, the State issued an *Administrative Order* requesting Townsend to install additional recovery and monitoring wells. The wells were installed in 1989.

Environmental Progress

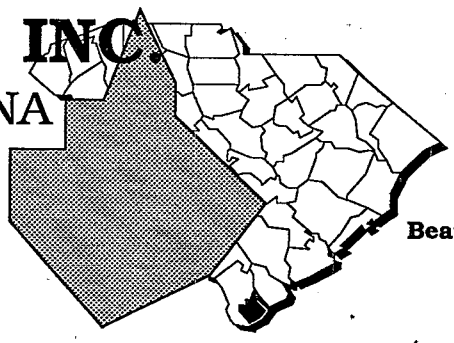


Pumping and treating the contaminated groundwater have significantly reduced the potential for exposure to contamination and reduced migration of contaminants in the groundwater while the studies into a final remedy are taking place.

WAMCHEM, INC.

SOUTH CAROLINA

EPA ID# SCD037405362



REGION 4
CONGRESSIONAL DIST. 01
Beaufort County
Burton

Alias:
Beaufort Chemical and Research Company

Site Description

The 21-acre Wamchem site is located on a small island in the midst of a salt marsh near McCalleys Creek, a tidal stream. From 1959 to 1972, the Beaufort Chemical and Research company owned and operated the site, producing dyes for the textile industry. In 1972, M. Lowenstein Company purchased the facility and continued operations until 1981. Liquid wastes generated at the site were discharged to a drainage ditch leading to two unlined ponds. A ditch was later extended from one of the ponds, discharging wastes directly into McCalleys Creek. Waste treatment methods changed, and the ponds and ditches were replaced by an unlined holding pond and a waste *lagoon* in 1972; however, these were soon replaced by two spray fields and a concrete-lined holding pond in 1975. In 1977, the South Carolina Department of Health and Environmental Control (SCDHEC) required the company to use a spray-irrigation technique to improve its wastewater process. The wastes discharged onto the spray fields consisted of neutralized sulfuric *acid* and process water. The surface water is contaminated, but it does not constitute a major threat to water supplies at this time. Approximately 2,000 people within a 3-mile radius depend on drinking water from the shallow a*quifer* that lies below the site.

Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY
Proposed Date: 09/01/83
Final Date: 09/01/84

Threats and Contaminants

The contaminants in the groundwater and soil include *volatile organic compounds* (VOCs) including benzene, toluene, xylenes, and acetone from former site operations. The site is considered to be a habitat for the loggerhead turtle, a federally listed threatened species, and a probable habitat for the short-nosed sturgeon, a federally listed endangered species. Also, the site is located in an environmentally sensitive area comprised of salt marshes, tidal streams, and fragile *estuary* habitats supporting abundant natural resources.

Cleanup Approach

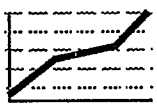
This site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: Based upon a comprehensive site investigation performed by the parties potentially responsible for site contamination, the EPA has selected the final cleanup actions to be used at the site. These actions include: (1) installing a groundwater pump and treatment system using *carbon adsorption* and *air stripping* of VOCs and releasing the decontaminated water into a nearby stream; and (2) digging up and treating 2,000 cubic yards of contaminated soil to remove contaminants followed by on-site disposal of the soil and groundwater monitoring. The EPA is currently reviewing engineering plans for the selected remedy. Site cleanup is expected to begin in 1990 and continue through 1999.

Site Facts: The EPA and the potentially responsible parties have signed a *Consent Decree,* which describes the cleanup actions that they are required to perform.

Environmental Progress



After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were required at the Wamchem, Inc. site prior to initiation of the pending soil and groundwater cleanup actions.

GLOSSARY:

TERMS USED IN THE FACT SHEETS

This glossary defines the italicized terms used in the site fact sheets for the State of South Carolina. The terms and abbreviations contained in this glossary are often defined in the context of hazardous waste management as described in the site fact sheets, and apply specifically to work performed under the Superfund program. Therefore, these terms may have other meanings when used in a different context.

Acids: Substances, characterized by low pH (less than 7.0) that are used in chemical manufacturing. Acids in high concentration can be very corrosive and react with many inorganic and organic substances. These reactions may possibly create toxic compounds or release heavy metal contaminants that remain in the environment long after the acid is neutralized.

Administrative Order On Consent: A legal and enforceable agreement between EPA and the parties potentially responsible for site contamination. Under the terms of the Order, the potentially responsible parties agree to perform or pay for site studies or cleanups. It also describes the oversight rules, responsibilities and enforcement options that the government may exercise in the event of non-compliance by potentially responsible parties. This Order is signed by PRPs and the government; it does not require approval by a judge.

Administrative Order [Unilateral]: A legally binding document issued by EPA directing the parties potentially responsible to perform site cleanups or studies (generally, EPA does not issue unilateral orders for site studies).

Air Stripping: A process whereby volatile organic chemicals (VOCs) are removed from contaminated material by forcing a stream of air through it in a pressurized vessel. The contaminants are evaporated into the air stream. The air may be further treated before it is released into the atmosphere.

Aquifer: An underground layer of rock, sand, or gravel capable of storing water within cracks and pore spaces, or between grains. When water contained within an aquifer is of sufficient quantity and quality, it can be tapped and used for drinking or other purposes. The water contained in the aquifer is called groundwater.

Backfill: To refill an excavated area with removed earth; or the material itself that is used to refill an excavated area.

GLOSSARY

Bases: Substances characterized by high pH (greater than 7.0), which tend to be corrosive in chemical reactions. When bases are mixed with acids, they neutralize each other, forming salts.

Bioaccumulate: The process by which some contaminants or toxic chemicals gradually collect and increase in concentration in living tissue, such as in plants, fish, or people as they breathe contaminated air, drink contaminated water, or eat contaminated food.

Borrow Pit: An excavated area where soil, sand, or gravel has been dug up for use elsewhere.

Cap: A layer of material, such as clay or a synthetic material, used to prevent rainwater from penetrating and spreading contaminated materials. The surface of the cap is generally mounded or sloped so water will drain off.

Carbon Adsorption: A treatment system in which contaminants are removed from groundwater and surface water by forcing water through tanks containing activated carbon, a specially treated material that attracts and holds or retains contaminants.

Chromated Copper Arsenate: An insecticide/herbicide formed from salts of three toxic metals: copper, chromium, and arsenic. This salt is used extensively as a wood preservative in pressure-treating operations. It is highly toxic and water soluble, making it a relatively mobile contaminant in the environment.

Closure: The process by which a landfill stops accepting wastes and is shut down under Federal guidelines that ensure the public and the environment is protected.

Consent Decree: A legal document, approved and issued by a judge, formalizing an agreement between EPA and the parties potentially responsible for site contamination. The decree describes cleanup actions that the potentially responsible parties are required to perform and/or the costs incurred by the government that the parties will reimburse, as well as the roles, responsibilities, and enforcement options that the government may exercise in the event of non-compliance by potentially responsible parties. If a settlement between EPA and a potentially responsible party includes cleanup actions, it must be in the form of a consent decree. A consent decree is subject to a public comment period.

Consent Order: [see Administrative Order on Consent].

Containment: The process of enclosing or containing hazardous substances in a structure, typically in ponds and lagoons, to prevent the migration of contaminants into the environment.

Creosotes: Chemicals used in wood preserving operations and produced by distillation of tar, including polycyclic aromatic hydrocarbons and polynuclear aromatic hydrocarbons [see PAHs and PNAs]. Contaminating sediments, soils, and surface water, creosotes may cause skin ulcerations and cancer with prolonged exposure.

Decommission: To revoke a license to operate and take out of service.

Degrease: To remove grease from wastes, soils, or chemicals, usually using solvents.

Downgradient: A downward hydrologic slope that causes groundwater to move toward lower elevations. Therefore, wells *downgradient* of a contaminated groundwater source are prone to receiving pollutants.

Downslope: [see Downgradient].

Estuary (estuarine): Areas where fresh water from rivers and salt water from nearshore ocean waters are mixed. These areas may include bays, mouths of rivers, salt marshes, and lagoons. These water ecosystems shelter and feed marine life, birds, and wildlife.

Generator: A facility that emits pollutants into the air or releases hazardous wastes into water or soil.

Good Faith Offer: A voluntary offer, generally in response to a Special Notice letter, made by a potentially responsible party that consists of a written proposal demonstrating a potentially responsible party's qualifications and willingness to perform a site study or cleanup.

Impoundment: A body of water or sludge confined by a dam, dike, floodgate, or other barrier.

Intake: The source where a water supply is drawn from, such as from a river or waterbed.

Lagoon: A shallow pond where sunlight, bacterial action, and oxygen work to purify wastewater. Lagoons are typically used for the storage of wastewaters, sludges, liquid wastes, or spent nuclear fuel.

Landfill: A disposal facility where waste is placed in or on land.

Leachate [n]: The liquid that trickles through or drains from waste, carrying soluble components from the waste. **Leach, Leaching [v.t.]:** The process by which soluble chemical components are dissolved and carried through soil by water or some other percolating liquid.

Long-term Remedial Phase: Distinct, often incremental, steps that are taken to solve site pollution problems. Depending on the complexity, site cleanup activities can be separated into a number of these phases.

Migration: The movement of oil, gas, contaminants, water, or other liquids through porous and permeable rock.

Notice Letter: A General Notice Letter notifies the parties potentially responsible for site contamination of their possible liability. A Special Notice Letter begins a 60-day formal period of negotiation during which EPA is not allowed to start work at a site or initiate enforcement actions against potentially responsible parties, although EPA may undertake certain investigatory and planning activities. The 60-day period may be extended if EPA receives a good faith offer [see Good Faith Offer] within that period.

Pentachlorophenol (PCP): A synthetic, modified petrochemical that is used as a wood preservative because of its toxicity to termites and fungi. It is a common component of creosotes and can cause cancer.

Phenols: Organic compounds that are used in plastics manufacturing and are by-products of petroleum refining, tanning, textile, dye, and resin manufacturing. Phenols are highly poisonous and can make water taste and smell bad.

Polycyclic Aromatic Hydrocarbons or Polyaromatic Hydrocarbons (PAHs): PAHs, such as pyrene, are a group of highly reactive organic compounds found in motor oil. They are a common component of creosotes and can cause cancer.

Polychlorinated Biphenyls (PCBs): A group of toxic chemicals used for a variety of purposes including electrical applications, carbonless copy paper, adhesives, hydraulic fluids, microscope emersion oils, and caulking compounds. PCBs are also produced in certain combustion processes. PCBs are extremely persistent in the environment because they are very stable, non-reactive, and highly heat resistant. Burning them produces even more toxins. Chronic exposure to PCBs is believed to cause liver damage. It is also known to bioaccumulate in fatty tissues. PCB use and sale was banned in 1979 with the passage of the Toxic Substances Control Act.

Polynuclear Aromatic Hydrocarbons (PNAs): PNAs, such as naphthalene, and biphenyls, are a group of highly reactive organic compounds that are a common component of creosotes, which can be carcinogenic.

Potentially Responsible Parties (PRPs): Parties, including owners, who may have contributed to the contamination at a Superfund site and may be liable for costs of response actions. Parties are considered PRPs until they admit liability or a court makes a determination of liability. This means that PRPs may sign a consent decree or administrative order on consent [see Administrative Order on Consent] to participate in site cleanup activity without admitting liability.

Radionuclides: Elements, including radium, and uranium-235 and -238, which break down and produce radioactive substances due to their unstable atomic structure. Some are man-made and others are naturally occurring in the environment. Radon, which is the gaseous form of radium, decays to form alpha particle radiation, which can be easily blocked by skin. However, it can be inhaled, which allows alpha particles to affect unprotected tissues directly and thus cause cancer. Uranium, when split during fission in a nuclear reactor, forms more radionuclides which, when ingested, can also cause cancer. Radiation also occurs naturally through the breakdown of granite stones.

Runoff: The discharge of water over land into surface water. It can carry pollutants from the air and land into receiving waters.

Sediment: The layer of soil, sand and minerals at the bottom of surface waters, such as streams, lakes, and rivers that absorb contaminants.

Seepage Pits: A hole, shaft, or cavity in the ground used for storage of liquids, usually in the form of leachate, from waste disposal areas. The liquid gradually leaves the pit by moving through the surrounding soil.

Sludge: Semi-solid residues from industrial or water treatment processes that may be contaminated with hazardous materials.

Slurry Wall: Barriers used to contain the flow of contaminated groundwater or subsurface liquids. Slurry walls are constructed by digging a trench around a contaminated area and filling the trench with an impermeable material that prevents water from passing through it. The groundwater or contaminated liquids trapped within the area surrounded by the slurry wall can be extracted and treated.

Stabilization: The process of changing an active substance into inert, harmless material, or physical activities at a site that act to limit the further spread of contamination without actual reduction of toxicity.

Stillbottom: Residues left over from the process of recovering spent solvents.

Trichloroethylene (TCE): A stable, colorless liquid with a low boiling point. TCE has many industrial applications, including use as a solvent and as a metal degreasing agent. TCE may be toxic to people when inhaled, ingested, or through skin contact and can damage vital organs, especially the liver [see also Volatile Organic Compounds].

Upgradient: An upward slope; demarks areas that are higher than contaminated areas and, therefore, are not prone to contamination by the movement of polluted groundwater.

Upslope: Upstream; often used relative to groundwater [see Upgradient].

Volatile Organic Compounds (VOCs): VOCs are made as secondary petrochemicals. They include light alcohols, acetone, trichloroethylene, perchloroethylene, dichloroethylene, benzene, vinyl chloride, toluene, and methylene chloride. These potentially toxic chemicals are used as solvents, degreasers, paints, thinners, and fuels. Because of their volatile nature, they readily evaporate into the air, increasing the potential exposure to humans. Due to their low water solubility, environmental persistence, and widespread industrial use, they are commonly found in soil and groundwater.

Watershed: The land area that drains into a stream or other water body.

Wetland: An area that is regularly saturated by surface or groundwater and, under normal circumstances, capable of supporting vegetation typically adapted for life in saturated soil conditions. Wetlands are critical to sustaining many species of fish and wildlife. Wetlands generally include swamps, marshes, and bogs. Wetlands may be either coastal or inland. Coastal wetlands have salt or brackish (a mixture of salt and fresh) water, and most have tides, while inland wetlands are non-tidal and freshwater. Coastal wetlands are an integral component of estuaries.